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KISAN PROJECT

PROJECT BASELINE AND FY2014 RESULTS SURVEY
FINAL REPORT (DRAFT)
CONTRACT NUMBER AID 367-C-13-00004

June 29, 2015

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

APO	Agriculture Program Officer, KISAN
AT	Agriculture Technician, KISAN
BDSO	Business Development Services Officer, KISAN
BFS	Bureau for Food Security
CBO	Community Based Organization
CC	Collection Center
CEAPRED	Center for Environmental and Agricultural Policy, Research, Extension and Development
DADC	District Agriculture Development Committee
DADO	District Agriculture Development Office
DEPROSC	Development Project Service Center
DIP	Detailed Implementation Plan
DNA	Disaggregate Not Available
DQA	Data Quality Assessment
FINGO	Financial Intermediary Non-Governmental Organization
FTF	Feed the Future
FTFMS	Feed the Future Monitoring System
FY	Fiscal Year
GIS	Geographic Information System
GON	Government of Nepal
GUC	Grants under Contract
IPM	Integrated Pest Management
KG	Kilogram
KISAN	Knowledge Based Integrated Sustainable Agriculture and Nutrition
KPI	Key Performance Indicator
LSP	Local Service Provider
M&E	Monitoring and Evaluation
MFI	Micro Finance Institution
MOAD	Ministry of Agriculture Development
MPC	Marketing Planning Committee
MSME	Micro, Small, and Medium Enterprise
MT	Metric Ton
NRS	Nepali Rupees
PMP	Performance Management Plan
Rs	Nepalese Rupi
SACCO	Savings and Credit Cooperative
TBD	To Be Determined
USAID	United States Agency for International Development
USD	United States Dollar

USG	United States Government
VDC	Village Development Committee
WIKISAN	Winrock International's KISAN project database
ZOI	Zone of Influence

I. INTRODUCTION

PROJECT DESCRIPTION

Winrock International has been contracted by the United States Agency for International Development in Nepal (USAID/Nepal) to implement the Knowledge-based Integrated Sustainable Agriculture and Nutrition (KISAN) Project. This project is funded by the President's Feed the Future (FTF) Initiative. The project design reflects USAID/Nepal's Multi-Year Strategy for FTF implementation and guidance provided by the Bureau for Food Security.[1]

KISAN helps subsistence smallholder farmers graduate to commercial agriculture by improving on-farm production and facilitating market development. The Project's overall goal is to increase farm family incomes. KISAN focuses on target commodities that are important for food security (rice, maize, and lentils), are high-value (off-season vegetables), and are nutrient-rich. The project targets 20 districts in Nepal's West, Midwest, and Far West regions (refer to map in Annex A)[2]. Within this Zone of Influence, market access influences how farmers' gains in yields improve household welfare: increased household income (most significant in the low lying hills and Terai districts) or increased household consumption (particularly important in remote hill districts).

By the end of FY2014, KISAN had formed 2,375 farmers groups comprised of 49,219 farmers. Mobilizing farmers groups allowed project staff to deliver training and market information efficiently, promote farmer to farmer learning using Lead Farmers and demonstration plots, and achieve sufficient scale to attract buyers and input suppliers. In parallel, KISAN worked with 265 buyers, agrovets, and microfinance institutions to link them to KISAN farmers and enhance the quality of products, services, and relationships.

These activities established a solid foundation for phase two of the project, which features a sharper focus on expanding private sector service delivery capacities that can be sustained beyond the life of the project. In turn, KISAN's private sector partners will continue supporting farmers and farmers groups to achieve greater gains in technology adoption, yields, and sales.

KISAN is implemented by Winrock International in collaboration with two Nepali subcontractors: Development Project Service Center (DEPROSC); and Center for Environmental and Agricultural Policy, Research, Extension and Development (CEAPRED). The Project period is 2013 to late 2017.

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[1] Originally, USAID/Nepal envisioned combining agriculture and nutrition activities in a single project, hence the reference to "nutrition" in KISAN's project name. Nutrition activities were subsequently reassigned to a separate project, Suaahara ("good nutrition"). However, KISAN contributes to nutrition objectives by promoting several nutrient-rich vegetables.

[2] USAID/Nepal identified these districts based on need (high sub-regional hunger indexes, incidences of asset sales as a coping strategy, levels of outmigration, numbers of female-headed households) and opportunity (potential to increase agricultural productivity and sales). In addition, the Far-Western and Mid-Western Regions were prioritized in the Government's Country Investment Plan. All FTF-funded projects operate in this Zone of Influence (ZOI), reflecting FTF's strategy of helping focus and concentrate government, private sector, and donor interventions for greater impact and sustainability.

KISAN DATA COLLECTION AND REPORTING REQUIREMENTS

KISAN INDICATORS

The following table shows the 17 indicators referenced in KISAN's M&E Plan: 2015-2017 (June 2015). Key Performance Indicators (KPIs) specified in KISAN's Contract section C.4.7.12 are marked with an asterisk (*) following the indicator number. KISAN tracks output indicators directly on an ongoing basis and stores the data in the project's WIKISAN database. Outcome indicators require a survey for data collection. For each indicator, the table notes whether a survey is required to collect baseline and/or results data and the relevant beneficiary groups (farmers, firms, and/or organizations), as specified in FTF guidance documents.[3]

Table I. KISAN Performance Indicators FY15 – FY17

No. Type	Indicators	Survey Required?	Bene-ficiaries
DO2	Inclusive and Sustainable Economic Growth to Reduce Extreme Poverty		
4.5.2(13) Output	Number of rural households benefiting directly from USG interventions	No	Farmers
4.5.2(14) Output	Number of vulnerable households benefiting directly from USG assistance	No	Farmers
IR 2.1	Agriculture-Based Income Increased		
4.5(16)* Outcome	Gross margin per hectare of selected product	Baseline + Results	Farmers
4.5.2(23)* Outcome	Value of incremental sales (collected at farm-level) attributed to FTF implementation	Baseline + Results	Farmers
Np. Custom Outcome	Yield per hectare of selected product	Baseline + Results	Farmers
Outcome 1	Farmers receive improved and increased agricultural inputs		
4.5.2(29)* Output	Value of agricultural and rural loans	Results[4]	Farmers Firms
4.5.2(30) Output	Number of MSMEs, including farmers, receiving USG assistance to access loans	Results	Farmers Firms
Outcome 2	Improved capacity of agriculture extension workers, service providers, and farmers		
4.5.2(7) Output	Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	No	Farmers
4.5.2(37)* Output	Number of MSMEs, including farmers, receiving business development services from USG assisted sources	No	Farmers Firms

[3] Excel file provided by RiDA that shows indicators whose baseline value is zero, downloaded from the Agrilinks website.

[4] KISAN is not required to conduct a survey to collect data on the two loan indicators; however, the project has opted to do this because it is a more efficient method of data collection than tracking all loan transactions – and the only feasible method in Nepal. Although FTF indicates that the loan indicators are "output indicators", for KISAN they function as outcome indicators because KISAN does not disburse loans. Under Nepal privacy laws, KISAN does not have legal access to loan data because it is not a party to the transaction. In addition, KISAN-assisted banks do not have systems in place to track loans disbursed to KISAN beneficiaries separately from other customers.

Table I. KISAN Performance Indicators FY15 – FY17

No. Type	Indicators	Survey Required?	Bene-ficiaries
Outcome 3	Improved and sustainable agriculture production and post-harvest technologies and practices adopted at farm level		
4.5.2(2)* Outcome	Number of hectares of land under improved technologies or management practices as a result of USG assistance	Survey	Farmers
4.5.2(5)* Outcome	Number of farmers and others who have applied improved technologies or management practices as a result of USG assistance	Survey	Farmers
IR 2.2	Small Enterprise Opportunities Expanded		
Nepal 2.2-1 Outcome	Number of medium, small, and micro-enterprises established and/or expanded as a result of USG assistance.	No	Firms
Outcome 4	Improved market efficiency		
4.5.2(38)* Outcome	Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation	Results	Firms
Outcome 5	Increased capacity of GON and local organizations		
4.5.2(11) Output	Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance	No	Firms Orgs
4.5.2(27) Output	Number of members of producer organizations and community based organizations receiving USG assistance	No	Orgs
4.5.2(42)* Outcome	Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations and community-based organizations (CBOs) that applied improved technologies or management practices as a result of USG assistance	Results	Firms Orgs
DO3	Increased Human Capital		
IR 3.2	A Healthier and Well-Nourished Population		
4.5.2.8(x) Outcome	Total quantity of targeted nutrient-rich value chain commodities set aside for home consumption by direct beneficiary producer households	Baseline	Farmers

COMMENTS ON BASELINE DATA COLLECTION

In 2014 USAID/Nepal contracted FORWARD Nepal to conduct a baseline survey for all FTF activities, including but not limited to KISAN. Interviews were conducted in June and July. KISAN reviewed FORWARD's data set and noted several issues.

- FORWARD's sampling frame did not reflect the distribution of KISAN's farmers between the Terai and hill regions. It over-represented the hill regions.
- Several errors exist in the data set that suggest the data was not properly cleaned; for example, sales volumes exceeded yields for several farmers, and some yields and farm sizes far exceeded expected upper limits.

KISAN discussed this matter with the Bureau of Food Security in March 2015, and both parties agreed that KISAN would collect baseline data in conjunction with its FY2014 survey.

FY14 REPORTING SCHEDULE AND FTF PORTFOLIO REVIEW

Typically, FTF-funded projects report annual outcome data based on the USAID fiscal year, which runs October through September. This is done in their Annual Report and data entry into the Feed the Future Monitoring System (FTFMS), and is due October 31st each year. Data are consolidated with other projects in the Mission's FTF Portfolio for review by the Mission and Bureau of Food Security in Washington, DC. In March and April, the Bureau facilitates annual FTF Portfolio Reviews for Missions receiving FTF funding (19 total in 2015).

Prior to 2015, Winrock's contract specified a reporting schedule that aligned with the Government of Nepal's fiscal year. This will be corrected in contract modification no. 8 to meet USAID's reporting requirements. In parallel, the Bureau of Food Security and USAID/Nepal scheduled the Nepal FY2014 FTF Portfolio Review later than usual (May 11 and 12th) to allow time for KISAN to conduct a survey. This accommodation was made to ensure the Mission had sufficient data, since KISAN is USAID/Nepal's largest FTF-funded project. On March 12, 2015 USAID/Nepal requested that Winrock implement a survey immediately with the aim of submitting preliminary baseline and FY2014 data on April 24th and May 4th for KISAN's seven KPIs. The day after the first submission, Nepal suffered a 7.8 earthquake. Working from Nepalgunj, Kathmandu, and the U.S., the M&E Team regrouped as quickly as possible and continued with data analysis and cleaning. Nepal's Portfolio Review was postponed given the circumstances.

The data presented in this report has been cleaned and is considered final. The methodology and data have undergone the following reviews:

- The Survey Team Leader vetted the survey design with the BFS/SPPM M&E Advisor on March 17th, prior to performing random sample selection.
- The Survey Team Leader documented the indicator measurement methodologies in detail in Annex E and vetted them with the BFS/SPPM M&E Advisor in a series of e-mails and phone conversations throughout the survey period. She flagged for closer review any issues that seemed unclear in the FTF guidance documents.
- KISAN core M&E Team met with RIDA on June 4th and 8th to ensure FTFMS data entry requirements were fully understood.
- KISAN core M&E Team met with the USAID/Nepal COR, AOR and M&E Officers on June 17th to review the final data.

Refer to Annex N for a summary table of KISAN data featured in the FTF Portfolio Review. Refer to Annex O for a copy of KISAN's FTFMS Data Entry worksheet. Submission through FTFMS is the primary mechanism for reporting FTF Implementing Mechanism data to USAID/Nepal and BFS.

TARGET SETTING

Targets are cited in KISAN's M&E Plan and entered into FTFMS. KISAN used the baseline data presented in this Final Report to set FY15 to FY17 targets (refer to Annex O). KISAN's FY14 targets were set based on Forward's baseline data. Once entered into FTFMS, targets can not be changed. KISAN used the "Deviation Notes" and/or "Indicator Comment" fields in FTFMS to discuss FY14 target issues.

II. KISAN SURVEY DESIGN

OVERVIEW

The survey collected baseline and FY2014 results data for nine outcome indicators. KISAN's baseline and FY2014 beneficiary universe includes 33,920[5] farmers and 265[6] firms and organizations in 20 districts. A census was used for indicators related to firms and organizations and a survey of 960 farmers was used for farm-level indicators. Data collection forms for each sampling frame reflect the nature of KISAN's interventions with the beneficiary pool, expected outcomes, indicator definitions, and data disaggregation requirements. For the purpose of calculating sample sizes, KISAN used a margin of error of 10 percent and a confidence level of 95 percent, in accordance with FTF guidance. Of the sample of 960 farmers, KISAN completed 911 interviews. Almost all interviewees (905) grew one of KISAN's target crops in FY2014.

The FY2014 survey focused on primary contacts (those assisted by the project team) because KISAN did not have an intentional, deliberate strategy for reaching secondary contacts (those assisted by Local Service Providers (LSPs), agrovets, and other private sector partners that KISAN trained). Starting in March 2015, KISAN has a strategy for reaching secondary contacts and future survey designs will reflect this.

SURVEY DESIGN FACTORS

The survey design reflects the following factors:

Field work roll-out schedule: KISAN started field activities in 10 districts in the Midwest Region in November and December 2013. Field activities for the West and Far West Regions started in March and April 2014. Within each district, KISAN rolled out training activities by Village Development Committee (VDCs), in accordance with a Detailed Implementation Plan (DIP). VDCs were agreed on in consultation with District Agriculture Development Committee (DADC). Each target VDC has multiple farmers groups.

Survey purpose: The data collection forms capture both baseline conditions and FY2014 results. Baselines reflect the state of affairs before project interventions. For farm level indicators, the date varies by farmer depending on when he/she first came into contact with KISAN.

Training activities: For FY2014, only farmers who participated in KISAN training sessions contributed to project outcomes. WIKISAN tracks the date each farmers group received training for vegetables, rice, maize, and lentils. Training sessions were scheduled to sync with the crop calendar.

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[5] By the end of FY2014, KISAN had trained 49,219 farmers. Only those farmers who has received at least one trainings by mid-June 2014, in time to influence crops harvested in FY2014 were sampled.

[6] KISAN interviewed 237 of 265 FY2014 beneficiary firms and organizations (89 percent) for the census. Some firms and organizations were not interviewed for the following reasons: 1) owners absent due to migration or travel; 2) flood-effected (will be noted as inactive in WIKISAN), 3) duplicates in WIKISAN that will be removed; and 4) training/support for some started at the end of FY2014, too late to influence FY2014 results related to application of improved technologies and management practices, loans, and capital investments. The FY2014 beneficiary number has been adjusted down from 270 previously reported to reflect duplicate or inactive firms.

Crop calendar: The crop calendar indicates the number of cropping cycles each farmers group completed since KISAN training, with the possible exception of early or off-season crops made possible through plastic tunnels. Farmers in the Midwest could have completed up to two cropping cycles in FY2014, whereas farmers in the West and Far West regions could have completed only one. Refer to C for a cropping calendar.

Geography: KISAN works in varied ecological zones and development regions that have different agriculture productivity and market potentials and receive different levels of project support.

ASSESSMENT PERIODS

Given the unusual task of conducting a joint baseline and FY2014 survey, KISAN defined the assessment periods based on when participants first received substantial project support, primarily in the form of training. Thus the assessment periods are unique to each beneficiary, as described below:

- Each beneficiary's baseline year is the 12-month period prior to their first training or assistance from the project.
- Each beneficiary's FY2014 contribution period started with their first KISAN training or assistance and ended at the end of September 2014. All technologies, yields, sales, and costs associated with each crop were attributed to the fiscal year in which it is harvested or sold.

SAMPLE FRAME FOR FARM-LEVEL INDICATORS

Based on the crop calendar, KISAN determined that only farmers who started training by June 15, 2014 could potentially contribute to FY2014 project outcomes. For this reason, only 33,902 of KISAN's 49,219 beneficiary farmers were included in the sample frame. These farmers were organized into 1,648 farmers groups, across 242 VDCs in 20 districts. The survey sample was stratified based on:

- Two ecological zones: the Terai and hills.
- Two development region clusters: the Midwest Region, where KISAN has worked with farmers since October 2013 (the beginning of FY2014); and the West and Far West Regions combined, where KISAN started working with farmers in March and April 2014 (midway through FY2014).

KISAN anticipated that these strata would have very different results for the reasons stated above. For each indicator, results were calculated separately for each strata and extrapolated across each strata's beneficiary population to calculate Project-wide results. Refer to Table XV in Annex B for the distribution of KISAN's beneficiary population across strata.

To ensure a representative sample, KISAN used a two-stage cluster sampling approach. Approximately 240 potential interviewees were required per strata to achieve a sample size that could produce statistically significant data. This reflects a margin of error of 10 percent, a confidence level of 95 percent, an estimated 20 percent nonresponse rate, and accounts for the design effect of

using clusters based on villages (2). KISAN randomly selected 12 VDCs[7] (rural villages) per strata and 20 interviewees per VDC, resulting in 960 interviewees total. The two-stage cluster sampling was conducted as follows:

1. Systematic sampling: The total number of VDCs in the strata was divided by 12 to identify the interval (for example, 58/12 = 5). All VDCs in the strata were listed, a random starting point was chosen between 1 and 5, and each 5th VDC was selected.
2. Simple random sample: A simple random sample of 20 beneficiaries in each selected VDC was identified.

The resulting sample is shown in Table XVI in Annex B.

This approach was discussed with Danielle Knueppel of USAID/Nepal and and Salik Farooqi of BFS in a conference call on March 19, 2015 and agreed by all parties.

CENSUS FOR FIRM AND ORGANIZATION-LEVEL INDICATORS

The FY2014 beneficiary universe for indicators related to firms and groups includes 265 firms and organizations.

Table II. Breakdown of KISAN Firms and Organizations

Type of Firm	No. of Project Participants
Agrovets	122
Marketing Planning Committees	35
Agribusinesses	6
Savings Cooperatives	54
Micro-Finance Institutions (MFIs)	26
Financial Institutions (not MFIs)	20
Seed Companies	7[8]
Total	**265[9]**

KISAN conducted a census of these beneficiaries and interviewed 237. Farmers are not included in the census because they do not make capital investments or engage in collective farming and thus cannot be counted under the indicators related to investments and technology adoption. Firm-related indicators are noted in Table 1.

INDICATOR MEASUREMENT METHODOLOGY

Data were extrapolated from the sample findings to KISAN's relevant beneficiary populations to obtain the project-wide results. Gross margin and yield data focus on KISAN's 3 target cereal crops (rice, maize, and lentils) and top five target vegetables crops (cauliflower, cabbage, tomato, bitter

[7] The Government of Nepal uses the term "VDC" to refer to both "Village Development Committee" and its corresponding rural village. VDCs are distinguished from "municipalities" in Government of Nepal strategies. "VDC" is used in this report to refer to target villages.

[8] Savings Cooperatives also work with seeds, for a total of 18 seed firms (8 rice and 10 maize).

[9] The disaggregates add to 270 because they include 5 firms and organizations that were determined to be inactive or duplicates in WIKISAN during the interview process. The disaggregate numbers will be corrected for the final version of this report.

gourd, and cucumber). Refer to Annex E for a detailed description of indicator measurement methodology.[10]

III. SURVEY FINDINGS

This section discusses survey findings and data limitations. The challenges of comparing baseline data to an agriculture project's first year of field activities are discussed up front, as this context is critical for data interpretation.

KISAN notes that several indicators designated in FTF baseline guidance as having a baseline of zero require measuring the baseline value to be able to discern what is attributable to USG assistance and/or new. This is true for the technology adoption, access to loans, and new private sector investment indicators. For this reason, KISAN has opted to present the survey data in two ways:

- Where necessary to provide evidence for how KISAN-supported farmer's and firm's behaviors changed during the first year of field work -- baseline, FY14, and incremental results data are presented and discussed in the main body of this report.
- All baseline and results data in FTFMS is in accordance with the FTF baseline guidance in Annex O, as instructed by USAID/Nepal.

For many reasons summarized in the next section, the FTFMS data provides a very limited picture of KISAN results. The detailed narrative helps provide a more complete interpretation of the survey data.

DATA LIMITATIONS

ASSESSMENT PERIODS WITH DIFFERENT DURATIONS

Across all indicators, FY2014 data for any KISAN farmer reflect less than a full year of project participation given how the project roll-out schedule and cropping calendar sync with the USAID fiscal year. Farmers interviewed had an average of 6.6 months to contribute to FY2014 results (refer to table). In contrast, data for the baseline period reflects 12 months of agricultural activities.

Table III. Farmers' Average Period of KISAN Participation in FY2014, by Strata

Strata	No. of Months
Mid-West Hills	8.4
Mid-West Terai	7.8
West/Far West Hills	5.4
West/Far West Hills	4.8
Project Average	**6.6**

[10] An earlier version was attached to the Draft M&E Plan (Annex B) and reviewed by USAID/Nepal and the BFS on March 24, 2015.

KISAN farmers' effective FY2014 contribution period was *further reduced* (substantially less than 6.6 months) for the following reasons:

- *Truncated on the front-end*: Although KISAN field activities began in the Mid-West in October 2013, initial participants' first harvest (rice) did not contribute to FY2014 results because farmers had not yet had a sufficient amount of KISAN training or technical assistance to attribute any yields or sales to KISAN.

- *Truncated on the back end*: Although trained at this point, many if not most FY2014 KISAN farmers spent the final months of FY2014 tending to rice and vegetable crops that were harvested at the start of FY2015.

The different assessment period lengths makes it difficult to make meaningful comparisons for the purpose of calculating outcomes measured based on increases over the baseline – this is true for most of KISAN's KPIs. Extrapolation from 6.6 months to 12 months does not appear to be a sound option for outcomes based on crop cycles, because agriculture isn't like manufacturing. Cereal crops are grown once per year, so capturing the results is an "all or nothing" endeavor. In addition, the technology adoption indicators – which theoretically offer an important intermediate indication of whether farmers are on the right track – are measured in the year each crop is harvested. Thus, the FY2014 technology adoption results under-represent farmers' behaviors in FY2014 related to improved technologies and management practices.

KISAN's truncated FY2014 also adversely affects the statistical significance of the survey data for some indicators, by reducing the number of respondents who reported yields, sales, and consumption of KISAN's target crops. Ideally, for each indicator or commodity disaggregate, the survey sample would have captured at least 96 relevant beneficiaries for each of the four strata, or 384 total.[11] Although the survey team collected baseline data from 911 farmers and FY2014 data from 905 farmers, the target for statistical significance was not reached on an indicator or commodity disaggregate basis for some indicators. Still, the number of responses is sufficiently high to give a solid indication of the direction and a lower limit on the magnitude of change. This number is reported in the tables for reference.[12]

In conclusion, FY2015 results will provide a much clearer picture of project achievements and provide a more sound basis for comparison with baseline figures. The primary survey achievements are capturing credible baseline data and FY2014 data (albeit not readily comparable), establishing and testing a sound survey methodology and tools, and building capacity across the KISAN team for survey implementation. In addition, the survey provided an excellent learning opportunity for all participants -- both KISAN staff and interviewees -- to better understand how project interventions and improved farm and firm-level practices drive key outcomes.

[11] For example, at least 96 farmers interviewed per strata would need to report harvesting and selling tomatoes to calculate a statistically significant tomato gross margin.

[12] Note that the number of interviewees listed in the table is based on those who reported a value above zero. If those that reported zero were included (for example, producers interviewed who did not receive a loan), the result (value of loan) would not change, but the statistical significance of the result would improve.

KEY FINDINGS

The survey data provide evidence for the following KISAN achievements with respect to vegetable production:

- **Vegetable yields increased** by 23 to 54 percent by commodity;
- **Sales increased** from an adjusted baseline of $ 5.2 million to $8.4 million in FY2014, resulting in incremental sales of $3.2 million (a 61 percent increase);
- **Gross margins** for KISAN's top four target vegetables increased 9 percent for cauliflower, 31 percent for cabbage, 16 percent for tomatoes, and 53 percent for bitter gourd;
- The **number of hectares** planted in vegetables with at least one improved technology or management practice increased by 39 percent in FY2014; and
- **Farmers' application of improved technologies and practices increased** from an average of 4 to 6.5 technologies per farmer across all target crops (cereals and vegetables) – a 62.5 percent increase despite the truncated fiscal year.

KISAN's approach recognizes that farmers will pilot test KISAN's recommendations on a very small area of their plot, and then increase the number of hectares planted in vegetables using improved technologies and practices as they gain confidence. In parallel, money earned from sales allows them to invest in better technologies. Since FY2014 was KISAN's initial year of field activities and most participants had only one crop cycle, it is too soon to assess the validity of KISAN's Theory of Change. FY2015 survey data will provide more complete evidence of farmer's behaviors and KISAN's achievements.

FY2014 BENEFICIARY POPULATION

The following table provides a breakdown, by commodity, of the number of KISAN beneficiaries that contributed to FY2014 results. As mentioned earlier, KISAN trained 49,219 farmers in FY2014, and previously entered this number into FTFMS for the number of rural households benefitting (an *output* indicator). In consultation with the BFS/SPPM M&E Advisor during the subsequent survey design phase, KISAN limited the sampling frame to 33,902 farmers, as this subset of the FY2014 beneficiary population comprises farmers who were trained in time (June 15, 2014) to contribute to the *outcomes* measured in the survey.

Table IV. FY2014 KISAN Beneficiary Population

Commodity	Total	Male	Female
Cereals			
Rice	4,134	2,082	2,052
Lentils	898	367	531
Maize	18,828	7,811	11,017
Vegetables			
Cauliflower	15,345	6,703	8,642
Cabbage	10,783	4,864	5,919
Tomato	12,390	5,662	6,728
Bitter Gourd	15,303	6,947	8,356
Cucumber	12,762	6,031	6,731
Total	**33,902**		

Note that KISAN farmers grew more than one crop, so the total population is not equal to the sum of the commodity disaggregates. In addition, the table focuses on KISAN's most important target commodities; not all target commodities are listed.

GROSS MARGINS AND YIELDS

KISAN collected gross margin data for all three target cereals and the top five target vegetables (those grown by the most farmers).

Table V. Gross Margins per Hectare of Selected Crops

Commodities	Baseline		FY2014		Increase	
	No. of Producers with sales in Sample	Avg. Gross Margin	No. of Producers with sales in Sample	Avg. Gross Margin	Absolute	%
Cereals						
Rice	312	$506	38	$653	$147	29%
Lentils	154	$327	7	$387	Uncertain	Uncertain
Maize	180	$488	224	$573	$85	17%
Vegetables						
Cauliflower	203	$3,682	316	$4,029	$347	9%
Cabbage	182	$2,277	242	$2,985	$708	31%
Tomato	140	$3,969	225	$4,590	$621	16%
Bitter Gourd	82	$2,822	195	$4,323	$1,501	53%
Cucumber	96	$3,961	162	$3,855	($106)	-3%

Cereals

The data indicates that the maize gross margin increased by 17 percent and the maize yield increased by 20 percent. The baseline and FY2014 gross margins are within the range expected by KISAN's agronomists, based on calculations made during prior targeting-setting exercises. The FY2014 gross margin for rice increased by 29 percent. The rice yield data shows little change (-1 percent), but most of the rice planted in FY2014 will be harvested in FY2015 and thus isn't reflected in FY2014 data. The FY2014 gross margin for lentils is uncertain due to the small number of respondents who reported harvesting lentils by the end of September, a consequence of the truncated fiscal year. In addition, adverse weather destroyed a large share of the lentil crop in FY2014.

KISAN interventions related to improving cereal gross margins in FY2014 focused on promoting improved seeds and brokering maize and rice seed production contracts between seed companies and KISAN farmers to increase the supply of quality seed in local markets. In addition, some of the improved technologies and practices KISAN taught for vegetable cultivation could apply to cereal crops. However, KISAN training largely focused on vegetable production and expected that: 1) farmers would allocate a greater share of their farm to vegetables, leaving fewer hectares allocated to cereals; and 2) keep a larger share of their cereal yields for home consumption, leaving a smaller quantity available to sell. For these reasons, vegetable gross margins and sales are a better indicator of KISAN's FY2014 achievement than cereal gross margins and sales. Based on conversations between USAID/Nepal and KISAN in February 2015, KISAN will increase support for improvements in cereal production going forward.

Vegetables

The data indicates that gross margins for cauliflower, cabbage, tomato, and bitter gourd increased 9 to 54 percent. The gross margin for cucumbers decreased by 3 percent, despite 29 percent higher yields on average, due to lower market prices. This is likely a result of competition from Indian imports, since the Zone of Influence is adjacent to the Indian border. The baseline and FY2014 values are within the range expected by KISAN's agronomists. These results are favorable despite the truncated fiscal year, which does not reflect the potential for two vegetable crop cycles in a year and thus substantially under-reports the FY2014 gross margins.

Table VI. Yields per Hectare for Selected KISAN Target Crops (Metric Tons/Ha)

Commodities	Baseline		FY2014		Increase	
	No. of Producers in Sample	Total Yield	No. of Producers in Sample	Total Yield	Absolute	%
Cereals						
Rice	750	3.49 MT	168	3.46 MT	(0.03)	(1%)
Lentils	308	0.60 MT	19	0.41 MT	(0.19)	(32%)
Maize	564	2.28 MT	512	2.74 MT	0.46	20%
Vegetables						
Cauliflower	493	13.07 MT	375 MT	16.12	3.06 MT	23%
Cabbage	446	15.65 MT	305 MT	20.09	4.44 MT	28%
Tomato	370	14.43 MT	311 MT	18.41	3.98 MT	28%
Bitter Gourd	296	8.62 MT	312 MT	13.28	4.65 MT	54%
Cucumber	285	13.87 MT	285 MT	17.92	4.05 MT	29%

SALES

KISAN promoted the following target commodities:

Cereals:	Rice, maize, and lentils.
Seeds:	Rice, maize, and lentil seeds.
Vegetables:	Tomato, cauliflower, cabbage, cucumber, bitter gourd, bottle gourd, eggplant, chili pepper, onion, and long bean.

The Survey Team collected data for all KISAN target commodities except seeds. Based on the FTF adjustment methodology, KISAN farmers' sales increased from an adjusted baseline of $5.2 million to $8.4 million in FY2014, resulting in incremental sales of $3.2 million. This represents a 61 percent increase. Vegetables account for 72 percent of FY2014 incremental sales.

Refer to the following table for both unadjusted and adjusted incremental sales figures.

Table VII. Incremental Sales (USD)

Commod-ities	Adjusted Baseline		FY2014		Incremental Sales	
	Total No. of Beneficiaries	Adjusted Sales	Total No. of Beneficiaries	Reporting Year Sales	Absolute	%
Rice	28,231	$583,012	4,134	$519,848	($63,164)	
Lentils	11,849	$44,965	898	$25,047	($19,918)	
Maize	20,075	$617,508	18,828	$1,012,691	$395,183	
Vegetables	25,391	$3,975,418	31,317	$6,840,334	$2,864,916	72%
Total	33,902	$5,220,903	33,902	$8,397,920	$3,177,017	61%

IMPROVED TECHNOLOGIES AND MANAGEMENT PRACTICES

Technology adoption is important for assessing if KISAN is on track to achieve results, because it reflects a crucial intermediate result for outcomes related to yields, sales, and gross margins. The data related to farmers and hectares is presented in the tables below. Although FTF guidance does not specify that technology adoption be tracked by crop, KISAN is able to comply with USAID/Nepal's request of April 24th for this disaggregation because the survey team anticipated that it would be useful and structured the questionnaires accordingly (refer to Annexes F and G).

Farmers

Almost all KISAN farmers in the sample used at least one improved technology or practice in both the baseline year (32,597 or 96.2 percent) and FY2014 (30,944 or 91.3 percent). The FY2014 result is 5 percent lower than baseline. This is due to: 1) the truncated fiscal year; and 2) technologies and practices applied to rice and winter vegetable crops in late 2014 are counted in FY2015, the harvest year. Despite these factors, the number of farmers who applied at least one improved technology or management practice to vegetables increased by 31 percent.

Table VIII. Number of Farmers Who Applied Improved Technologies or Management Practices

Disaggregation	Baseline		FY2014		Increase	
	No. of Appliers in Sample	Total No. of Farmers	No. of Appliers in Sample	Total No. of Farmers	Absolute	%
By Commodity						
Rice	721	26,671	166	4,044	(22,827)	(85%)
Lentil	178	6,880	14	674	uncertain	
Maize	525	19,244	498	18,266	(978)	(5%)
Vegetables	**607**	**21,698**	**678**	**28,488**	**6,790**	**31%**
By Technology						
Crop genetics		20,334		29,001		
Cultural practices		29,629		30,794		
Pest management		5,206		24,488		
Disease management		3,247		14,427		

Table VIII. Number of Farmers Who Applied Improved Technologies or Management Practices

Disaggregation	Baseline		FY2014		Increase	
	No. of Appliers in Sample	Total No. of Farmers	No. of Appliers in Sample	Total No. of Farmers	Absolute	%
Soil conservation		27,853		29,819		
Irrigation		18,701		22,810		
Water management		1,424		2,112		
Climate mitigation		1,432		3,617		
Marketing		1,018		14,127		
Post-harvest handling		22,876		28,662		
Total with 1 or more		**32,597**		**30,944**	**(1,653)**	**(5%)**

Given the potentially large number of improved technologies and management practices in agriculture and the long history of donor interventions in the Zone of Influence, application of *at least one* improvement is a very low bar that obscures the actual level of behavior change among project beneficiaries. The change in the *average number* of improvements provides a clearer picture. KISAN-assisted farmers applied an average of 4.1 improved technologies or management practices in the baseline compared to 6.5 technologies in FY2014 – an increase of 64 percent despite the truncated fiscal year. Results are most striking in the Midwest Region, where farmers in the hills increased from 4.1 to 6.3 improved technologies (up 55 percent) and farmers in the Terai increased from 3.6 to 6.7 improved technologies (up 84 percent). This is as expected, since KISAN field work in the Midwest began earlier than in the West and Far West Regions (refer to Table III).

Hectares

The number of hectares with at least one or more improved technologies or management practices decreased between the baseline and FY2014 because technologies applied in FY2014 to crops harvested in FY2015 count in FY2015. This resulted in a large decrease for rice that skewed the project-wide number since rice accounts for 69 percent of the total cultivated area). However, the number of hectares planted in vegetables with at least one improvement increased by 39 percent.

Table IX. Number of Hectares with Improved Technologies or Management Practices

Disaggregation	Baseline		FY2014		Increase	
	No. of Appliers in Sample	Total No. of Ha	No. of Appliers in Sample	Total No. of Ha	Absolute	%
By Commodity						
Rice	721	16,157	166	1,784	(14,373)	(89%)
Lentil	178	1,994	14	130	uncertain	
Maize	525	4,233	498	3,996	(238)	(6%)
Vegetables	607	1,189	678	1,656	467	39%
By Technology						
Crop genetics		10,585		5,632		
Cultural practices		16,775		7,302		
Pest management		2,201		3,231		

Table IX. Number of Hectares with Improved Technologies or Management Practices						
Disaggregation	Baseline		FY2014		Increase	
	No. of Appliers in Sample	Total No. of Ha	No. of Appliers in Sample	Total No. of Ha	Absolute	%
Disease management		623		1,782		
Soil conservation		16,528		7,091		
Irrigation		10,336		3,946		
Water management		199		239		
Climate mitigation		410		639		
Marketing		805		2,417		
Post-harvest handling		14,710		6,790		
Total with 1 or more		**23,563**		**7,566**	**(15,997)**	**(68%)**

Firms and Organizations

KISAN works with input suppliers (agrovets), buyers (traders and seed firms), agricultural cooperatives, collection centers, marketing planning committees, lending institutions, and other agribusinesses. Support focuses on 1) strengthening market linkages, market planning, and market intelligence at district and regional levels, and 2) within individual firms and organizations, assisting with business plans, improving access to credit, expanding services and products, and strengthening business management systems. In FY2014 KISAN worked with 265 firms and organizations (refer back to Table II for a breakdown), plus 2,375 farmers groups.[13] Of the former, the Census Team interviewed 237 and found that 217 (91 percent) had applied an improved technology or management practice as a result of KISAN assistance.

Table X. Number of Private Enterprises and Organizations That Applied Improved Technologies or Management Practices in FY2014	
Type of Organization[14]	No. of Firms That Applied
Private Enterprises	122
Trade and Business Associations	93
Disaggregate not available (DNA)	2
Total (excluding farmers groups)	**217**

Refer to the questionnaire in Annex H for a list of improved technologies and management practices promoted as part of KISAN's organizational capacity development assistance to firms and organizations.

[13] KISAN-assisted producers groups were not included in the firm and organization census because they generally do not apply improved practices at the organization level for the benefit of the organization. Although KISAN helped all farmers groups also function as savings groups, this is for the benefit of individual members.

[14] A value of zero will be reported for the following disaggregates: producer organizations, water users associations, womens groups, and community based organizations.

INVESTMENTS

The value of new investment in the agriculture sector by KISAN-assisted firms in FY2014 is $706,831. The baseline is zero. Of 237 firms and organizations interviewed in the census, 42 firms (18 percent) reported new investments.

ACCESS TO FINANCE

FTF measures access to finance in two ways: 1) total value of loans received from formal financial institutions as a result of project assistance, and 2) number of micro, small, and medium enterprises (MSMEs) who receive loans from either a formal or informal financial institution as a result of project assistance. Although KISAN works with both formal and informal financial institutions, in FY2014 a considerable share of KISAN's efforts to increase access to credit focused on helping all new farmers groups also function as savings groups. This is a critical first step in helping farmers become credit-worthy so that they can eventually access formal sources of credit. This evolution takes longer than a year for most farmers. Consequently, for FY2014 the value of loans indicator is less relevant than the number of farmers accessing loan indicator, since the former excludes informal savings groups. KISAN notes that FTF opted to drop indicator 4.5.2(25) in 2014: *Number of people with a savings account or insurance policy as a result of USG assistance*. This indicator would also be relevant during the Project's initial phase.

Value of Formal Loans

Data for this indicator were collected using a sample survey and extrapolation for producers and a census for all others. The value of agricultural loans from formal financial institutions to KISAN-assisted farmers and firms increased from roughly $668K to $958K (44 percent) in FY2014, despite the truncated fiscal year.

Table XI. Value of Agricultural and Rural Loans (USD)

Value Chain Actors	Baseline		FY2014		Increase	
	No. of Borrowers in Sample	Total Value of Loans	No. of Borrowers in Sample	Total Value of Loans	Absolute	%
Producers (farmers)	54	$486,605	76	$707,032	$220,427	45%
Local traders and Assemblers	35	$91,379	42	$182,726	$91,347	100%
Wholesalers and Processors	1	$18,684	0	0	($18,684)	(100%)
Others	3	$70,947	2	$68,421	($2,526)	(4%)
Total		**$667,615**		**$958,179**	**$290,564**	**44%**

Access to Informal and Formal Loans

Despite the truncated fiscal year, the number of KISAN beneficiaries that received one or more loans in FY2014 increased by 37 percent.

Table XII. Number of MSMEs, Including Farmers, Receiving Assistance to Access Loans

Value Chain Actors[15]	Baseline		FY2014		Increase	
	No. of Borrowers in Sample	No. of Loan Recipients	No. of Borrowers in Sample	No. of Loan Recipients	Absolute	%
Producers	132	4,887	154	6,697	1,810	37%
Local traders & Assemblers	40	40	49	49	9	23%
Wholesalers & Processors	1	1	0	0	(1)	(100%)
Others	3	3	2	2	(1)	(33%)
Total		**4,931**		**6,748**	**1,817**	**37%**

Farmers represent the largest share of borrowers. Approximately 14.4 percent of KISAN's farmer reported receiving a loan. Anecdotal evidence indicates that farmers reluctant to borrow for agriculture, with the exception of livestock. The reasons warrant further investigation. Those that do borrow are reluctant to report it to a survey interviewer because they perceive a stigma, believing that borrowing signals that they are poor (rather than being "credit-worthy"). Farmers may have under-reported their borrowing practices for this reason.

CONSUMPTION OF NUTRIENT-RICH VEGETABLES

Consumption of nutrient-rich vegetables is a new FTF indicator introduced in FY2015. For this reason, the farmer survey focused on capturing baseline rather than FY2014 data. USAID/Nepal identifies the following seven nutrient-rich vegetables in the mission Performance Management Plan (PMP): okra, cabbage, cauliflower, spinach, bitter gourd, carrots, and pumpkin. To date, KISAN has focused on the first five because they are both high-value and nutrient-rich. The survey captured data for all seven crops; however, data was analyzed only for the following three.

Table XIII. Baseline Consumption of Nutrient Rich Vegetables

Vegetables	No. of Consumers in Sample	Total No. of Consumers	Metric Tons
Cauliflower	493	18,023	1,471
Cabbage	445	16,036	1,233
Bitter Gourd	295	11,212	504
Total			**3,208**

PRIORITY CONSTRAINTS

KISAN included the following question in the farmer interview: What are the top three issues that prevent you from achieving higher yields or sales, starting with the most important? This was stated as an open-ended question and interviewers were instructed not to prompt the interviewee. The following options were listed in the interview form to facilitate analysis: labor shortage, lack of access to loans, lack of access to water, lack of authority to decide which crops to grow, lack of knowledge, lack of access to quality inputs, lack of access to markets/buyers, and other (specify). The

[15] The disaggregates will be changed to firm size, in accordance with FTF guidance.

table below shows the rankings based on the total number of responses. Not surprisingly, lack of access to water ranks highest. It is interesting to note that lack of access to loans ranks low.

Table XIV. Ranking of Priority Constraints

Constraints	Share
Lack of access to water	30.8%
Lack of knowledge	19.9%
Lack of access to quality inputs	14.5%
HH labor shortage	11.3%
Lack of access to markets/buyers	11.3%
Other	8.2%
Lack of access to loans	3.3%
Lack of authority to decide which crops to grow	0.7%
Total	100%

IV. DATA QUALITY

This section discusses data quality measures and findings.

DATA QUALITY CHALLENGES AND LIMITATIONS

Following is a brief summary of potential data quality issues -- identified during the survey design phase -- that relate to both survey design and implementation. Solutions and conclusions are also discussed to help the reader assess their significance for reported survey findings.

Table XV. Data Quality Challenges and Limitations

Potential Risks or Issues	Solutions and Conclusions
Survey Design	
Selection bias This bias occurs if the survey sample does not accurately represent the beneficiary population.	**Random sampling** The Survey Designer randomly selected from among KISAN's target VDCs and beneficiary farmers in the project database (WIKISAN), using the methodology described earlier and recommended by the Bureau for Food Security Advisor.
Sampling error The variability across potential samples within a population that result in differences between the sample statistics used to estimate the population parameters (indicators) and the actual population statistics (the results that would have been documented if a census of the entire population was conducted)	**Sample size** The sample size reflects a conservative design factor of 2 (which doubled the size beyond that required based on the margin of error and confidence level alone) -- as recommended by the Bureau for Food Security Advisor. The Survey Team successfully completed 911 farmer interviews of the sample of 960. Since the sample size reflects a non-response margin of 20 percent and the number of interviews is within this margin, the number of responses is sufficient.

Table XV. Data Quality Challenges and Limitations

Potential Risks or Issues	Solutions and Conclusions
Measuring small changes The increase in yields and gross margins for cereals may be small compared to the margin of error (10 percent). Consequently, it may be difficult to capture improvements in cereals.	**Margin of error** FTF allows for a relatively large margin of error of 10 percent, which KISAN opted to use to reduce the sample size requirements to what was feasible within the relatively short timeframe for conducting the survey. ▪ The gross margin for rice is -1 percent, which is too small relative to the margin of error to know that rice gross margins actually decreased. The rice gross margin remains unknown for the more significant reason that the 2014 rice harvest falls in FY2015. ▪ Lentil: The gross margin for lentils is uncertain due to crop failure and the truncated fiscal year, which is beyond what can be addressed by survey design. ▪ The gross margin for maize increased by 31 percent, which is well beyond the 10 percent margin of error. Of farmers interviewed, 564 reported maize sales in the baseline period and 512 reported maize sales in FY2014, which is sufficient to be statistically significant.
Statistical significance KISAN's truncated FY2014 adversely affects the statistical significance of the survey data for some indicators, by reducing the number of respondents who report yields, sales, and consumption of KISAN's target crops. Ideally, for each indicator or commodity disaggregate, the survey sample would capture at least 96 relevant beneficiaries for each of the four strata, or 384 total.	**Sample size** As noted above, the sample size includes a design factor of 2. In addition, KISAN collected gross margin data for 8 commodities, which provided a margin over the 5 required for FTF reporting purposes. Based on the number of interviewees who reported sales greater than zero: ▪ Baseline gross margins appear statistically significant for maize, cauliflower, and cabbage and are fairly credible for cucumber and bitter gourd given data from 285-296 farmers each. ▪ FY2014 gross margins are statistically significant for maize and fairly credible for all 5 vegetables given data from 285-375 farmers each. Note that reported gross margins represent a lower limit due to the truncated fiscal year, especially for vegetables given that two vegetable harvests are possible in a 12-month period.
Survey Implementation	
Measurement error – response bias This bias occurs if interviewees misrepresent their practices and results because they want to present themselves or the project in a favorable light. It may be more likely if they know the Interviewer and/or the Interviewer is employed by the project	**Setting Data Quality Expectations** KISAN opted to use senior project staff who are known to the interviewees to ensure that the interviewers would be able to accurately interpret farmers' responses, seek clarification, and calculate gross margins. It also helped avoid confusion with other donor-funded projects on the part of interviewees. To mitigate the risk of response bias related to social desirability, survey training emphasized the importance of data quality ("no data is better than bad data") and covered effective interview techniques.

Table XV. Data Quality Challenges and Limitations

Potential Risks or Issues	Solutions and Conclusions
Farmer recall error: The length of time between the start of KISAN's field activities and the survey is 16 months in the Midwest Region and one year in the West and Far West Regions. This is an usually long time to rely on recall – particularly given the need to also capture the preceding baseline period.	**Memory aids and clear communication** To mitigate confusion over the assessment periods, the interviewers calculated each prior to the interview and converted them to Nepal dates. In addition, they referenced a significant holiday that coincided with the end of the fiscal year. The Survey Team concluded that: ▪ It is reasonable to expect that farmers can remember if they previously grew and sold the target commodities or applied improved technologies and practices prior to KISAN. ▪ Farmers have difficulty recalling quantities for vegetables consumed or given as gifts to neighbors, since they harvest on an ongoing basis in small increments. It affected the yields reported and consumption figures. This is less of an issue for the value of sales, though volume of sales was more difficult to remember.

In conclusion, the survey data established a credible baseline and the truncated FY2014 data gives a solid indication of the direction of change and a lower limit on the magnitude of change. FY2015 data, which will be collected in September, will provide a much clearer picture of project achievements.

DATA QUALITY MEASURES: BEFORE INTERVIEWS

The Survey Team implemented the following measures to ensure data quality:

- The Survey Team Leader prepared an Indicator Measurement and Survey Data Analysis Guide that summarizes how instructions in FTF M&E Guidance Documents apply to KISAN's unique project activities. She also consulted with the Bureau for Food Security as needed to clarify measurement approaches. The guide helped ensure that the design of the questionnaire forms and data analysis meets FTF requirements. It also documents the data analysis methodology employed by KISAN for USAID reviewers. Refer to Annex E.
- Surveys in Nepal often use numerators with only a high school diploma. KISAN opted to use senior project staff to conduct the interviews, including Business Development Services Officers (BDSOs) and Agriculture Program Officers (the latter have a Masters in Agriculture). Project staff were supplemented with staff from two Nepalese subcontractors, described in the following section. This approach helped ensure that interviewers understood project interventions and technical aspects of agriculture and agribusiness.
- KISAN staff participation also helped facilitate survey logistics, since the team is familiar with the target districts and VDCs. Last, interviewee's familiarity with the interviewers helped minimize the risk that interviewees would confuse the focus of the survey questions with another project (a challenge in the Zone of Influence given the large number of donor-funded projects that have operated there).

- Interviews were conducted in teams of two to allow one person to ask questions and another to record answers. Each team included at least one KISAN staff member for the reasons stated above.
- Both the farmer and firm questionnaires were tested in two rounds and revised based on feedback to ensure clarity and completeness. These were provided in both English and Nepali (refer to Annexes F and H for final versions in English).
- Detailed Field Guides were prepared to provide written instructions for completing the questionnaires on a question-by-question basis (refer to Annexes G and I). They also include a chart for converting local units of measure to standard units, and a list of phone numbers to call as needed to obtain answers to questions that might come up during the survey.
- KISAN's M&E Team and senior field managers conducted two rounds of 3-day training sessions in Nepalgunj to familiarize interviewers with the questionnaires and survey procedures (refer to Annex L for the agendas). Most of the training was conducted in Nepali, to facilitate learning and clear communication. The training approach was highly participatory and included calculating gross margins, reviewing a wide range of potential scenarios, and conducting interviews in nearby villages. Data quality expectations, issues, and measures were discussed at length. Completed questionnaires were immediately reviewed and detailed feedback was provided to participants about gaps and errors. The Field Guides were subsequently revised as needed to address common mistakes and misunderstandings.
- The M&E Team anticipated that farmers and interviewers would have difficulty correctly identifying the baseline and FY2014 assessment periods, which are unique for each farmer. The questionnaire design required Interviewers to calculate these periods prior to conducting the interview, and to record them using the Nepali calendar. Fortunately, the end of the fiscal year coincided with Nepal's most important holiday, and Interviewers were able to reference this when inquiring about farmer's planting, harvesting, and marketing activities.
- Information from interviews was recorded manually on data collection forms (hard copies) using blue or black ink to ensure that no information was lost from smudging or erasing.

DATA QUALITY ANALYSIS – AFTER INTERVIEWS

Upon submission to the Review Team in Nepalgunj, each questionnaire was assigned a unique identification number and recorded in a log. The Review Team subsequently implemented the following review process:

1. **KISAN District Review:** Both interviewers (the BDSO and either an APO or Full Bright Enumerator) reviewed the form to ensure it was complete and accurate. One photocopy of the form was taken before dispatching it to Nepalgunj for data entry. Photocopies were kept in the local KISAN District Office in the event the original was lost or the M&E Team had a question for the interviewers.
2. **KISAN Cluster Review:** The Cluster Manager conducted spot checks on Interview Teams to ensure they understood the Interview Form and process.

3. **KISAN Regional Review:** The M&E Regional Manager and Operational Officer in Nepalgunj reviewed each form. An expected range table for key data was prepared for this purpose (refer to Annex J). If any data appeared outside of the expected range or was otherwise suspect, and no explanation had been provided in the comment section, it was flagged for follow-up. The reviewers could correct some recording errors based on available information. Other errors required follow up with the Interview Team to discuss and resolve. If necessary, the Interview team also followed up with the interviewee. Refer to Annex K for a description of common errors and corrective measures.
4. **Full Bright Review:** The Full Bright Survey Supervisor in Nepalgunj, an Agricultural Expert, reviewed each form.
5. **Full Bright Data Entry:** The Full Bright Data Entry Specialists entered the data into the survey database.
6. **KISAN Data Quality Assessment (DQA):** The Full Bright Database Designer and KISAN GIS and DQA Specialist ran queries to detect data entry errors and outliers, based on the indicator measurement guide in Annex E and the expected values table in Annex J.[16] They produced a series of Error Lists for the Regional Review Team that listed all questionnaires requiring correction. This was done on an iterative basis over the course of several weeks, until DQA queries no longer detected errors. This process took longer than originally anticipated in the Work Plan, as it was conducted in post-earthquake conditions and the data required extensive data scrubbing. Following are selected examples of DQA queries:
    - Farmers having land >5 ha (omitted 6 respondents);
    - Harvest occurred outside baseline or FY2014 assessment period;
    - Yields higher than expected;
    - Input costs higher than expected;
    - Crop planting and harvest dates outside expected range;
    - Crop reported for technology adoption but not reported as planted or harvested; and
    - Loan date outside baseline or FY2014 assessment period.

The Survey Team is confident that any potential errors in the data used for calculations has been minimized.

V. SURVEY TEAM

Winrock International conducted the survey in collaboration with two Nepali subcontractors: Full Bright Consultancy and The PHD Group. The Survey Team comprised 84 members, including 61 KISAN M&E and technical staff (APOs and BDSOs) responsible for oversight and conducting interviews, 8 Full Bright consultants responsible for database development, data entry, and providing assistance with DQA and data analysis; and 15 PHD enumerators who helped round out the Interview Teams in selected districts.

Lorene Flaming designed the survey in consultation with KISAN's M&E Team, the Bureau for Food Security, and USAID/Nepal Feed the Future Team. KISAN's Survey Team Leader and M&E staff

[16] DQA queries focused on the variables that drive KISAN's indicator results. Not all data was scrubbed. For example, data scrubbing related to yields and sales focused on the crops for which gross margins were calculated. Data scrubbing for consumption focused on nutrient-rich crops.

oversaw all aspects of planning, training, database design, and data analysis. KISAN's Regional Team in Nepagung provided excellent logistical support and oversaw the review and document management of all questionnaire forms. Full Bright provided four consultants with survey experience and expertise in database design and agriculture. The following individuals comprise the Core Team:

Table XVI. Core Survey Team

Name	Title	Project or Firm	Location
Lorene Flaming	Survey Team Leader	KISAN	Kathmandu and U.S.
Praveen Baidya	KISAN Business Contracts Director	KISAN	Kathmandu
Rajiv Paudel	KISAN GIS & DQA Specialist	KISAN	Kathmandu
Zarin A. Pradhan	KISAN M&E Coordinator	KISAN	Kathmandu
Harish Devkota	KISAN Senior Regional Manager	KISAN	Nepalgunj
Rabindra Patel	KISAN Cluster Manager	KISAN	Nepalgunj
Sumi Maskey	KISAN Regional Operating Officer	KISAN	Nepalgunj
Binod Kachapaiti	Database Designer & Analyst	Full Bright	Kathmandu
Kshetra Shrestha	Agriculture Expert	Full Bright	Nepalgunj
Rishi Raj Loirala	Coordinator	Full Bright	Nepalgunj
Vijaya Pandey	Survey Supervisor	Full Bright	Nepalgunj

Refer to Annex M for a complete list of survey team members.

VI. SURVEY WORK PLAN

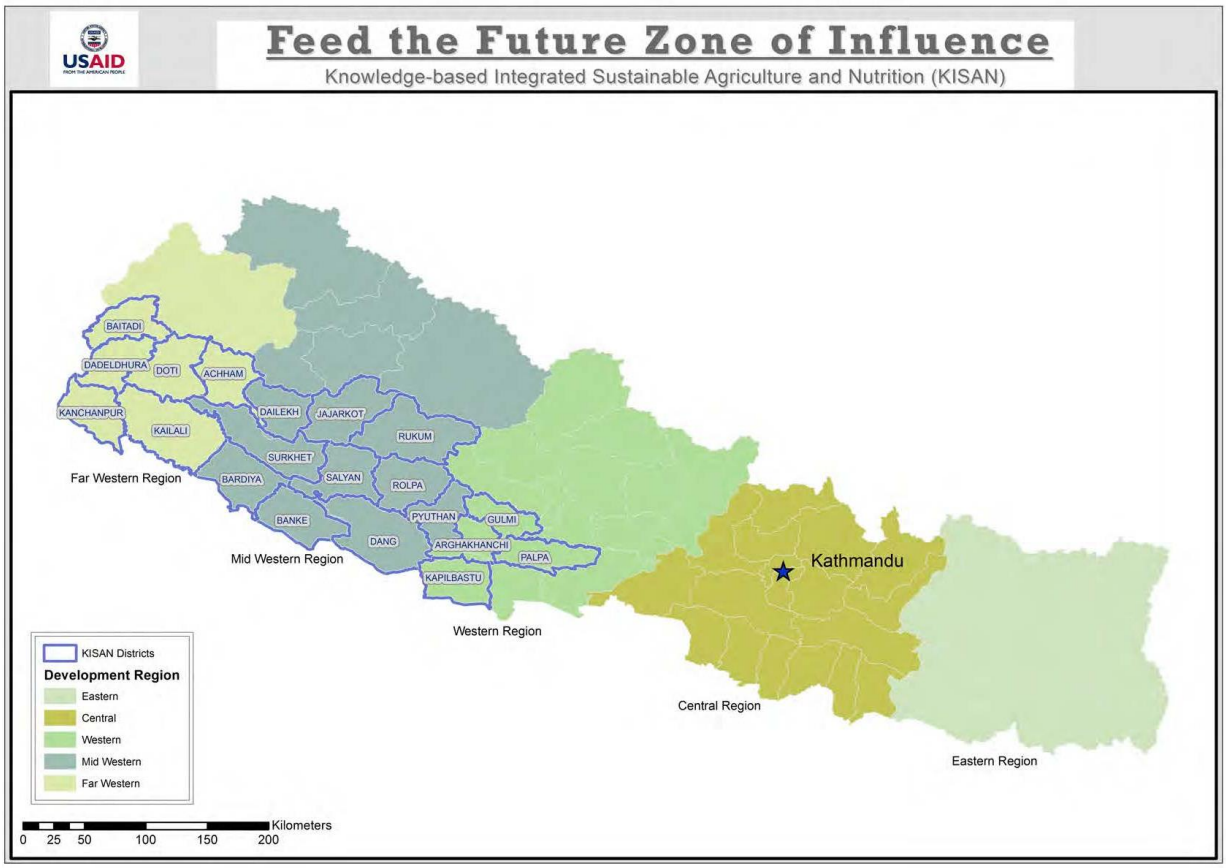
A detailed survey implementation schedule is provided in Annex D. Key milestones include:

March 12	USAID requested that Winrock International conduct a survey in time to produce data for Nepal's FTF Portfolio Review in early May 2015.
March	Full Bright and PHD subcontracted
March 27	Survey and instrument design completed
March 30-April 1	Training for interviewers – Round 1
April 2-4	Training for interviewers – Round 2
April 2-23	Interviews conducted for farmer survey and firm census
April 24	Preliminary data submitted – Round 1
May 4	Preliminary data submitted – Round 2
June 4	Data entered into the FTF Monitoring System (FTFMS) on June 4th
June 19	USAID review of data and Final Report
June 26	FY2014 results and FY2015-2017 targets entered into FTFMS

VI. ANNEXES

ANNEX A: MAP

Figure 1. Map of Feed the Future Zone of Influence



ANNEX B: FARMER SURVEY SAMPLE

Table XVII. Distribution of FY2014 Beneficiary Population By Strata

Midwest Region			West and Far West Regions		
Districts	**No. of VDCs**	**No. of KISAN Beneficiaries**	**Districts**	**No. of VDCs**	**No. of KISAN Beneficiaries**
Terai	**29%**	**49%**	**Terai**	**16%**	**13%**
Banke	21	5,310	Kailali	10	1,510
Bardiya	18	5,930	Kanchanpur	10	1,752
Dang	19	5,450	Kapilbastu	11	1,219
Total	**58**	**16,690**		**31**	**4,481**
Hills	**31%**	**27%**	**Hills**	**25%**	**11%**
Dailekh	10	1,775	Achham	5	390
Jajarkot	5	900	Baitadi	7	396
Pyuthan	9	1,777	Dadeldhura	6	340
Rolpa	7	951	Doti	5	408
Rukum	7	894	Arghakhanchi	9	823
Salyan	13	987	Gulmi	9	624
Surkhet	10	1,861	Palpa	9	605
Total	**61**	**9,145**		**50**	**3,586**

Table XVIII. District and Village Random Selection List

Midwest Region			West and Far West Regions		
Districts	**VDCs**	**No. of Farmers**	**Districts**	**VDCs**	**No. of Farmers**
Terai	**12**	**240**	**Terai**	**12**	**240**
Banke	Bankatti Kamdi Naubasta Raniyapur	80	Kailali	Basauti Bhajani Geta Joshipur Thapapur	120
Bardiya	Baniyabhar Jamuni Manau Rajapur	80	Kanchanpur	Daijee Dodhara Krishnapur Raikawar Bichawa Sreepur	60
Dang	Dharna Narayanpur Satbariya Urahari	80	Kapilbastu	Birpur Dharmpaniya	60
Hills	**12**	**240**	**Hills**	**12**	**240**
Dailekh	Bindhyabasini Ruma	40	Achham	Janalikot	20
Jajarkot	Bhoor	20	Baitadi	Basuling Siddhapur	40
Pyuthan	Belwas Naya Gaun	40	Dadeldhura	Ganeshpur	40
Rolpa	Dubring Sakhi	20	Doti	Gaihragau Warpata	20
Rukum	Magma	40	Arghakhanchi	Bangi Sandhikharka	20
Salyan	Kajeri Kotmala Tribeni	40	Gulmi	Gwadi Thanpati	40
Surkhet	Ghumkhahare	40	Palpa	Chidipani Masyam	60

ANNEX C: CROPPING CALENDAR

Figure 2. KISAN Cropping Calendar for Cereals and Vegetables

Crop	Growing period	Summer/Rainy Season			Winter						Spring/Dry Season				
		May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Hills	Days														
Maize for Home	90-115														
Maize for seed	90-145														
Tomatoes	120-150														
Cauliflower	75-120														
Cabbage	70-100														
Cucumber	35-80														
Eggplant	60-80														
Chillies	60-120														
Long bean	50-70														
Bitter gourd	40-100														
Terai															
Maize for feed	90-115														
Lentil for Dal	98-148														
Lentil seed	98-148														
Rice	125-150														
Rice seed															
Tomatoes	120-150														
Cauliflower	75-120														
Cabbage	70-100														
Cucumber	35-80														
Egg plant	60-100														
Chillies	60-120														
Long bean	50-70														
Bitter gourd	40-100														
Bottle gourd	40-100														
Onion	60-150														
USAID Fiscal Years						FY Ends <	> FY Starts								

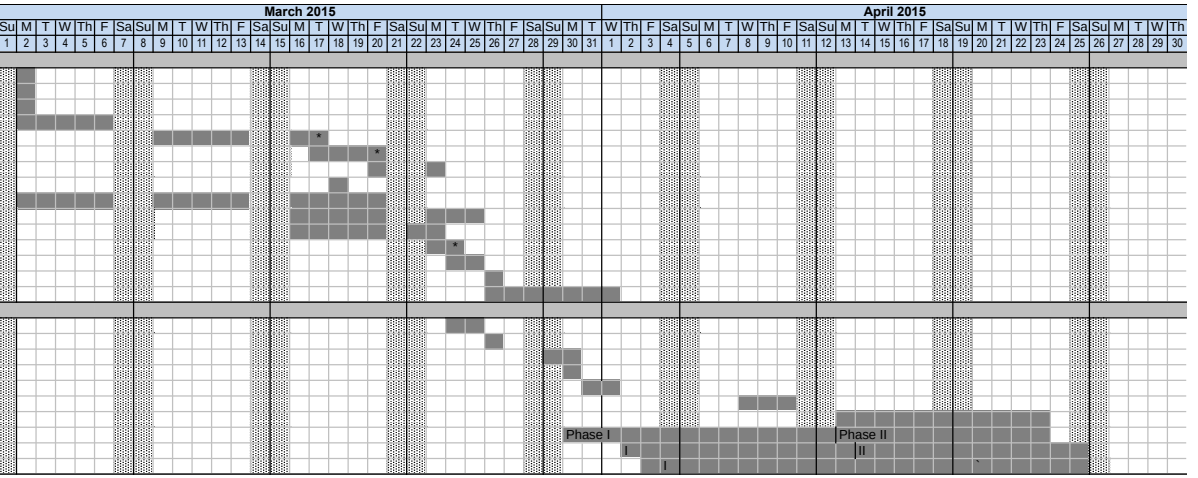
Transplanting & Seeding
Harvest

Source for Growing Period: MOAD Agriculture Diary 2014-15

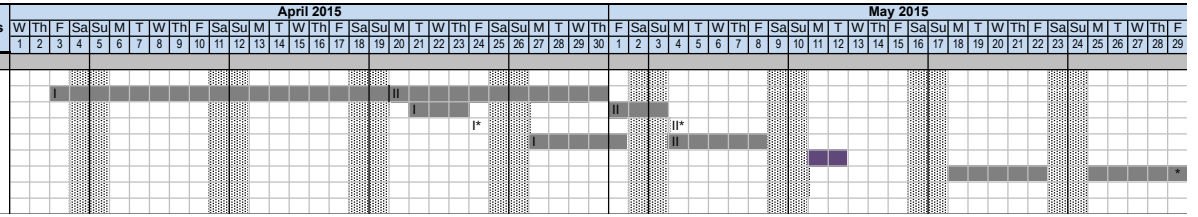
ANNEX D: SURVEY TIMELINE

Figure 3. Survey Timeline

Task	Lead	Days
Survey Design and Preparation		
Issue request for EOIs from local survey firms	Winrock HQ	Jan
Identify indicators	Lorene	Feb
Review FORWARD FTF baseline data	Rajiv	Feb
Review FTF indicator & survey guidance	Lorene	5
Identify sample size and survey design	Lorene	7
USAID BFS review of draft survey design	Salik	4
Select VDCs and farmers using two-stage cluster approach	Rajiv	1
Draft SOW/Budget for local firm	Praveen & Lorene	1
Identify local survey firms and issue subcontract(s)	Praveen & Jeff	15
Identify local Access database designer and issue subcontract	Rajiv	5
Adapt FTF survey instruments & guides	Zarin & Lorene	7
USAID review of instruments	Salik	1
Translate instruments	Zarin/Translator	2
Print survey forms	Zarin	1
Customize database	Rajiv/Designer	14
Field Work: Training and Data Collection		
Pilot test survey instruments (KISAN staff, English version)	Zarin	2
Revise survey instruments	Zarin & Lorene	2
Train KISAN staff on farmer surveys and data entry	M&E Core Team	2
Train KISAN staff on firm/org surveys	M&E Core Team	2
Train local firm's supervisors and data entry staff	M&E Core Team	2
KISAN Strategy Session in Nepalganj	Phil	
Conduct firm/organization interviews	KISAN Dist. Staff	11
Conduct farmer/HH interviews	Survey Firm	25
Enter data	Survey Firm	24
Address data issues	Survey Firm	23



Task	Lead	Days
Data Analysis		
Identify data quality assessment (DQA) queries	Rajiv	1
Conduct DQA and data cleaning	Rajiv	28
Conduct data analysis	Rajiv	6
Submit preliminary data to USAID/Nepal & BFS	Lorene	*
Internal USAID review	USAID	10
USAID/Nepal & BFS FTF Portfolio Review	USAID	2
Write Draft Report	Lorene	10
Review Draft Report	USAID	tbd
Finalize Report	Lorene	tbd



Version: March 23, 2015

ANNEX E: KISAN INDICATOR MEASUREMENT AND SURVEY DATA ANALYSIS GUIDANCE

This document summarizes guidance on indicator measurement and data disaggregation from the USAID Bureau of Food Security and USAID/Nepal Performance Management Plan. In addition, it includes data analysis guidance prepared by Winrock's M&E Consultant, Lorene Flaming. It was used to prepare the Field Guide for the Survey Team and to guide database design and data analysis by the Database Designer and DQA Specialist.

OVERARCHING INSTRUCTIONS

Disaggregation:

- USAID/Nepal requires reporting of disaggregates for beneficiaries by age (5-year increments), gender, caste (Dalit), ethnic affiliation (Muslim, Brahmin/Chhetr, Newar, Jaajati, and other), education, and occupation (KISAN Contract Section C.4.7.3).
- Additional disaggregation requirements for each indicator are provided in the following table.

Assessment periods:

- The baseline year is different for each beneficiary. It is the 12-month period prior to their first training or assistance from the project.
- For any given fiscal year (FY), new beneficiaries' contributions will be counted from the start of their first KISAN training or assistance to the end of the FY (less than a 12-month period).
- All technologies, yields, sales, and costs associated with each crop are counted in the FY in which it is harvested or sold.

DATA ANALYSIS PRIORITIES FOR BASELINE/FY2014 SURVEY

The following instructions are for the survey database designer:

- Data will be analyzed in three rounds: 1) for April 24 FTF Portfolio Review deadline, 2) for May 4 FTF Portfolio Review deadline, and 3) for Survey Final Report and FTFMS input (deadline to be determined). Data for the first two rounds may be preliminary. Data for the 3rd round will be final.
- For each indicator, data will be presented for the baseline and for FY2014.
- Focus on KPIs, marked with an asterisk (*). The most important are gross margins by crop, those related to technology adoption (number of ha with at least one technology and number of individuals and groups adopting at least one), and sales.
- For each indicator, create a table that gives a breakdown by strata, and then the project-wide figure. The project-wide figure should reflect the weight of each strata (refer to strata weighting/extrapolation instructions in table). Formulas will vary depending on whether the indicator is an average (gross margins) or total (sales, investments, technology adoption, etc.). Note that for the FY2015 survey, the number of strata may drop from 4 to 2 (Hills and Terai). It may not be necessary to distinguish between Midwest and West/Far West because these regions

will all have 12 months of project activities in FY2015. The only difference is that some farmers will have received KISAN support for a longer period of time.

- The disaggregated data is a much lower priority. Disaggregation tables should not be prepared until we have final data. This can be done after May 4th.
- The farmer forms are a much higher priority than the firm/group forms. We will hold off on analyzing this data until after April 24th. It is needed for our May 4th deadline.
- Prepare a table that shows the number of responses (completed forms) by strata. This will allow us to know if the results are statistically significant. We need at least 200 responses for each strata (out of 240 in the sample).
- Additional custom indicators are listed after the table. If possible, calculate by May 4th.

INDICATOR SPECIFIC GUIDANCE

Refer to following table for indicator specific guidance.

Table XIX. KISAN Indicator Measurement Guidance (2015-2017)

Indicators and Disaggregation	Counting Guidance	Data Quality Assessment and Analysis Guidance
4.5(16) Gross margin per hectare of selected product*		
Commodities ▪ Rice ▪ Maize ▪ Lentils ▪ Tomato ▪ Cauliflower ▪ Cabbage ▪ Cucumber ▪ Bitter gourd USAID/Nepal also tracks chili, eggplant, and onion. KISAN has developed training materials for these vegetables, but does not focus on these. To minimize the burden of data collection and analysis, FTF only requires gross margin calculations for five products. Sex (decision-maker): ▪ Male ▪ Female ▪ Joint ▪ Association Disaggregate first by commodity, then by sex.	For each commodity Input five data points for each commodity into FTFMS, disaggregated by sex. It will automatically calculate gross margins. 1. *TP: Total production* 2. *VS: Total value of sales (USD)* 3. *QS: Total quantity (MT) of sales* 4. *IC: Total recurrent cash input costs* 5. *Area: Total units of production (ha)* $\frac{[(VS/QS)xTP] - IC}{Area} = GM$ ▪ Report all data points in the year the crop is sold, not planted. ▪ For each data point (including hectares), sum all crop cycles for each commodity for the reporting year. ▪ Cash input costs only (excludes household labor and land costs). Includes costs for portion of production that is not sold. ▪ Omit sales of byproducts. ▪ Omit all data from farmers with more than 5 hectares. ▪ Omit data from farmers who had no sales of that crop. [Reference: Question: "*Can gross margins be calculated if a farmer does not sell any of his/her production*". Answer: "*For FTFMS reporting purposes, if no sales occur then gross margin can not be calculated*" (AIH, p. 59)].	DQA ▪ Unit of measure for sales quantity/volume must match that for incremental sales under 2.5.2(23). Actual sales figures may vary because gross margins are not calculated for all commodities and omit sales of byproducts. ▪ For any given farmer or producer, the reporting year sales (value and volume) of a specific commodity should be the same or similar for both incremental sales and gross margin (AIH, p. 60). ▪ In FY2014, FTFMS listed "vegetables" as one commodity. This will be modified to allow reporting gross margins by vegetable. ▪ Refer to the Expected Ranges table for inputs, yields, and costs. Preliminary Analysis ▪ Convert sales data collected in NPR to USD using the average interbank rate for the year. For example: FY2013: 99.8015 USD/NPR and FY2014: 97.8818 USD/NRP (source: OANDA). ▪ For baseline and FY2014 results, extrapolate from the strata sample to the strata population for each of the five GM factors. ▪ Using the sum of the four strata's results for each GM factor, calculate the project-wide GM using the formula at the left. ▪ Include the number of responses received for each crop by strata, to help assess statistical significance (we need 200). We will not obtain responses for rice for FY2014.

Table XIX. KISAN Indicator Measurement Guidance (2015-2017)

Indicators and Disaggregation	Counting Guidance	Data Quality Assessment and Analysis Guidance
4.5.2(23): Value of incremental sales (collected at farm-level) attributed to FTF implementation Units: Volume (Metric Tons) and Value (USD)*		
Target Commodities ▪ Rice ▪ Rice seed ▪ Maize ▪ Maize seed ▪ Lentils (pulses) ▪ Lentil seed ▪ Horticulture (tomato, cauliflower, cabbage, cucumber, bitter gourd, bottle gourd, eggplant, chili pepper, onion, long bean). The adjusted baseline sales calculation requires knowing the number of beneficiaries for each target commodity.	Who Counts ▪ Only smallholders supported by KISAN (direct beneficiaries). ▪ USAID/Nepal's definition for "smallholder" is pending. Until guidance is received, assume farmers with less than 5 ha are smallholders (based on the FTF upper limit). What Counts ▪ Sales of *targeted commodities only*, including byproducts (KISAN-supported vegetables). ▪ Sales must be by farmers, but do not need to be at the farm-gate. Exclusions ▪ Sales by companies, such as seed companies and agrovets. Formulas Sales: Total sales reported (USD) # of Interviewees in strata N: strata beneficiary population a) $(Sales_I/Interviewees_I) \times N_I$ = Strata $Sales_I$ b) $SS_1 + SS_2 + SS_3 + SS_4$ = Total Project Sales c) Total Project Sales/Total Beneficiaries d) Adjusted Baseline (applicable starting in FY2015) = (Baseline Average Sales per Beneficiary x no. of New Beneficiaries) + Total Baseline Sales. e) Incremental Sales = FY Sales – Adjusted Baseline Sales.	DQA for each target commodity: ▪ Sales volume can not exceed yield. ▪ *For any given farmer, strata, and project-wide*: sales volume and value for a *single target commodity* should be the same for incremental sales and gross margin indicators, unless byproducts are sold. ▪ Total incremental sales of *all KISAN target commodities* will be larger than the sum of sales reported for gross margin calculations because gross margins are not calculated for all target commodities. Preliminary and Final Analysis ▪ For each crop listed in the far left column, report *baseline, FY2014 total, and FY2014 incremental sales*. ▪ Refer to currency conversation rates under gross margin. ▪ See formulas at left for strata sales (extrapolated from sample), total project sales (sum of four strata), average sales per beneficiary, adjusted baseline sales, and incremental sales. ▪ The number of beneficiaries is the same for baseline and FY2014. The baseline will not need to be adjusted until reporting FY2015 results. ▪ The number of interviewees includes farmers who reported zero sales.[17] For FY2015 ▪ FTFMS will automatically adjust the baseline sales value in future years to account for the annual increase in the number of beneficiaries. The formula is provided at left for reference only (d).

[17] This instruction was not followed due to a misunderstanding within the Survey Team.

Table XIX. KISAN Indicator Measurement Guidance (2015-2017)

Indicators and Disaggregation	Counting Guidance	Data Quality Assessment and Analysis Guidance
4.5.2.8: Total quantity of targeted nutrient-rich value chain commodities set aside for home consumption by direct beneficiary producer households		
Commodity ▪ Okra ▪ Cabbage ▪ Cauliflower ▪ Spinach ▪ Bitter gourd ▪ Carrots ▪ Pumpkin (Note: In FY2014 KISAN did not promote carrots and pumpkin because they are not high-value; however, the project will track these).	What Counts ▪ Total volume (MT) of qualifying crops (listed in the left column). ▪ Count the nutrient-rich crops irrespective of where they are grown (kitchen garden or farm). ▪ Count the nutrient-rich crops irrespective of whether the farmer applied KISAN's recommended technologies and practices. Formulas Consumption: MT reported consumed # of Interviewees in strata N: strata beneficiary population $(Consumption_I/Interviewees_I) \times N_I = Strata\ Consumption_I$ $SC_1 + SC_2 + SC_3 + SC_4 = Total\ Project\ Consumption$	DQA for each target commodity: ▪ Consumption should equal production less sales, losses, and food given away. Preliminary and Final Analysis ▪ For each crop listed in the far left column, report *baseline, FY2014 total, and FY2014 incremental consumption* for each strata (incremental = FY2014 less baseline). ▪ See formulas at left for strata consumption (extrapolated from sample) and total project consumption (sum of four strata). ▪ The number of interviewees includes farmers who reported zero sales. ▪ Include yields given as gifts. This represents the amount consumed by another household.
Custom: Percentage of cereal production lost post-harvest		
Commodities ▪ Rice ▪ Maize ▪ Lentils	What Counts ▪ Volume (MT) of crops lost in post-harvest handling and storage. ▪ Count only losses that accrue to the farmer (not traders, wholesalers, etc.).	DQA Guidance ▪ Yields = consumption + sales + losses + food given away. ▪ Pre-harvest losses are reflected in reported yields (yields will be lower than expected). Final Analysis ▪ For each cereal crop listed in the far left column, report *baseline and FY2014 percentages* for each strata. ▪ No need to include the number of responses received for each crop by strata.

Table XIX. KISAN Indicator Measurement Guidance (2015-2017)

Indicators and Disaggregation	Counting Guidance	Data Quality Assessment and Analysis Guidance
4.5.2(29): Value of Agricultural and Rural Loans*		
Type of loan recipient ▪ Producers (farmers) ▪ Local traders/assemblers (middlemen) ▪ Wholesalers/processors (e.g. feed mills, seed companies) ▪ Others (LSPs, Agrovets) Sex of recipient: Individual loan recipient, proprietor, majority ownership, majority of senior management, or cannot be ascertained (n/a) ▪ male ▪ female ▪ joint ▪ n/a	What Counts (all must apply) ▪ Sum of *cash* loans *disbursed* to direct beneficiaries (farmers/producers, input suppliers, transporters, processors, and other MSMEs). Recipients do not need to be trained or otherwise assisted by KISAN to be considered a direct beneficiary. Working with MFIs to expand the number of people receiving loans for agricultural purposes in the 20 target districts is a deliberate KISAN strategy, which makes loan recipients a direct beneficiary. ▪ Loans made in rural areas, for targeted agricultural value chains, with USG assistance. ▪ Loans made by any size *registered* financial institution (includes NGOs). Exclusions ▪ Does not include portions of loans used for non-agricultural purposes. ▪ Does not include wholesale loans made to MFIs for on-lending. ▪ Does not include loans by informal groups such as village savings and loan groups that are not formally registered as a financial institution.	Formulas Loans: Reported loan total for strata (USD) # of Interviewees in strata N: strata beneficiary population $(Loans_I/Interviewees_I) \times N_I = Strata\ Loans_I$ $SL_1 + SL_2 + SL_3 + SL_4 = Total\ Project\ Loans$ Data Source KISAN determined that this data is best collected through a survey, because it is extremely time-consuming to collect loan data on a farmer by farmer basis from banks and the time can be better spent providing technical assistance. Producers loans will come from farmer survey. Data for all other recipients will come from the firm/organization survey.
4.5.2(30): Number of MSMEs, including farmers, receiving USG assistance to access loans		
Size Micro (1-10 FTE workers or farm HH) Small (11-50 FTE) Medium (51-100 FTE) Sex of recipient male female joint n/a	Who Counts ▪ Count each MSME/farmer *once* who received at least one loan during the reporting year, even if multiple loans are accessed. What Counts (differs from loan value indicator) ▪ Loans from *any financial institution*, formal or informal, with repayment in *cash or in kind*. ▪ Includes *in-kind lenders* of equipment, other agricultural inputs, or transport. ▪ The loan may be used *for any purpose* (does not need to be used for agriculture).	Formulas Access: Number of people who reported access in strata # of Interviewees in strata N: strata beneficiary population $(Access_I/Interviewees_I) \times N_I = Strata\ Access_I$ $SA_1 + SA_2 + SA_3 + SA_4 = Total\ Project\ Access$ Data will come from both the farmer survey and firm/org survey. Farmers will largely gain access through informal savings groups. Firms will largely gain access through MFIs.

Table XIX. KISAN Indicator Measurement Guidance (2015-2017)		
Indicators and Disaggregation	**Counting Guidance**	**Data Quality Assessment and Analysis Guidance**
4.5.2(38): Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation		
None	<u>What Counts</u> ▪ Only *capital investments* in assets for privately–led, *for-profit* agricultural activities managed by a formal company, CBO or NGO. ▪ The firm can be involved in any aspect of an agriculture value chain. ▪ "Leveraged" means that the investment is made by a firm or organization that receives BDS support from KISAN or KISAN-supported service providers. ▪ Examples: Investments by banks or agrovets to expand branches or warehouse facilities or upgrade computers count. <u>Exclusions</u> ▪ Excludes grants, operating capital for inputs or inventory, and investments by individuals such as farmers. Examples: 1) Investments by agrovets to increase inventory do not count because it is not a capital investment. 2) Investments by farmers to buy a tractor do not count because they are not a formal company.	<u>Comments</u> ▪ Only firms and organizations who receive BDS support under 4.5.2(37) will contribute to this indicator. ▪ Producers loans will come from the farmer survey. All other values will come from the firm/organization survey. <u>Formulas</u> Loans: Reported loan total for strata (USD) # of Interviewees in strata N: strata beneficiary population $(Loans_I/Interviewees_I) \times N_I = Strata\ Loans_I$ $SL_1 + SL_2 + SL_3 + SL_4 = Total\ Project\ Loans$

Table XIX. KISAN Indicator Measurement Guidance (2015-2017)

Indicators and Disaggregation	Counting Guidance	Data Quality Assessment and Analysis Guidance
4.5.2(2): Number of hectares of land under improved technologies or management practices as a result of USG assistance*		
<u>Technologies and Practices</u> ▪ Crop genetics (improved seeds with respect to yields, nutrition, or climate resilience). ▪ Cultural practices (seedling production and transplanting, planting density, moulding, mulching). ▪ Pest management (IPM, improved pesticides and application). ▪ Disease management (improved fungicides and application). ▪ Soil-related fertility and conservation (fertilizers, organic matter, erosion control). ▪ Irrigation (drip, sprinkler, lift). ▪ Water management (water harvest tank, tube well, plastic pond). ▪ Climate adaptation (no or low-till practices for carbon sequestration, practices to increase predictability and productivity under climate variability). ▪ Other (improved mechanical and physical land preparation) ▪ Total w/one or more <u>Sex (decision maker)</u> ▪ Male ▪ Female ▪ Joint ▪ Association Duration disaggregates ("new" and "ongoing") dropped in October 2014 FTF Indicator Handbook, p. 102.	<u>What Counts</u> ▪ Includes application of new technologies and significant improvements to existing technologies recommended by KISAN. *For each farm (aggregate):* ▪ Count "the number of ha with at least one technology applied" for each farm. This is the most important number for technology adoption. ▪ Double-counting occurs based on the number of crop cycles: the hectare is counted each time it is cultivated during the reporting year with at least one KISAN-recommended improved technology or practice. ▪ The number of technologies does not matter here. ▪ The number of hectares can exceed the "total area that is suitable for agriculture" if there is more than one cropping cycle. *For each technology (disaggregation):* ▪ Double-counting is based on the number of technologies applied during the year (by double-count we mean that the same hectare can be reported for more than one technology). ▪ Each hectare can only be counted once for each technology, even if it is applied to more than one crop. ▪ The number of crop cycles on a given hectare does not matter. ▪ Only if the same technology is applied on two different areas of the farm will hectares be summed for a technology. ▪ The number of hectares for any single technology can not exceed the "total area that is suitable for agriculture." ▪ If at least one of the technologies is applied for the first time, count the ha under the "new" disaggregate. See calculation examples in the Survey Field Guide.	<u>DQA Guidance</u> ▪ The sum of the sex disaggregates and the sum of the duration disaggregates should each equal the number of ha with one or more technologies applied. ▪ The number of ha with at least one technology applied (aggregate) can not be greater than the total area under cultivation times the number of crop cycles. ▪ The survey form tracks technology adoption by crop. It follows that the number of ha with the technology applied to a given crop should equal the area under cultivation for that crop (we wouldn't expect a farmer to apply a technology or practice to only part of a crop). ▪ The number of ha for a single technology can not be greater than the total area under cultivation. <u>Preliminary Analysis</u> Focus on the number of hectares with at least one technology applied. This data will likely need extensive cleaning. <u>Final Analysis</u> ▪ Calculate both 1) the number of hectares with at least one technology applied, and 2) the number of hectares by technology category. The technologies are grouped by category in the interview form. ▪ To identify what is a "new" technology, compare FY2014 application to baseline application. <u>Formulas</u> Hectares: Ha reported for strata # of Interviewees in strata N: strata beneficiary population $(Hectares_I/Interviewees_I) \times N_I =$ Strata $Hectares_I$ $SH_1 + SH_2 + SH_3 + SH_4 =$ Total Project Hectares

Table XIX. KISAN Indicator Measurement Guidance (2015-2017)

Indicators and Disaggregation	Counting Guidance	Data Quality Assessment and Analysis Guidance
4.5.2(5): Number of farmers and others who have applied improved technologies or management practices as a result of USG assistance*		
Sex (decision maker) ▪ Male ▪ Female ▪ Joint ▪ Association Value chain actor type: ▪ Producers (farmers) ▪ Others (individual processors, rural entrepreneurs, traders, extension agents). Duration disaggregates ("new" and "ongoing") dropped in October 2014 FTF Indicator Handbook, p. 102.	What Counts (must be a KISAN-recommended technology or practice): ▪ Technologies and practices listed under 4.5.2(2). ▪ Marketing and distribution (contract farming, input purchasing, sales, and market information systems). ▪ Post harvest handling and storage (packing, transportation, decay and insect control e.g. super bags, temperature and humidity control, quality control, sorting and grading). ▪ Value-added processing (improved packaging, food and chemical safety, preservation). ▪ Other (mechanical and physical land preparation, IT, record-keeping e.g. farmer logbooks, budgeting, financial management). Who Counts (*individuals* only) ▪ A beneficiary is counted *once* regardless of the number of technologies applied during the reporting year. ▪ If more than one beneficiary in a HH is applying improved technologies, count each beneficiary (KISAN generally counts only one beneficiary per HH). ▪ Do not include beneficiaries who are part of a group unless they *individually* apply the technology or practice. Exclusions Firms and organizations.	Formulas FT: Number of farmers reporting application of at least one improved technology in strata # of Interviewees in strata N: strata beneficiary population $(FT_I/Interviewees_I) \times N_I$ = Strata farmers applying$_I$ $SFT_1 + SFT_2 + SFT_3 + SFT_4$ = Project total number of farmers applying

Table XIX. KISAN Indicator Measurement Guidance (2015-2017)

Indicators and Disaggregation	Counting Guidance	Data Quality Assessment and Analysis Guidance
4.5.2(42): Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations and community-based organizations (CBOs) that applied improved technologies or management practices as a result of USG assistance*		
Type of organization ▪ Private enterprise (agrovets) ▪ Producers organization (farmers groups and cooperatives) ▪ Water users association ▪ Women's groups ▪ Trade and business (collection centers and MPCs) ▪ CBOs (SAACOs based in VDCs that largely focus on agriculture) Duration disaggregates ("new" and "ongoing") dropped for all technology-related indicators in 2014. [18]	Who counts ▪ Each group counts *once* per year (not by technology). ▪ See list under disaggregation. ▪ Enterprises include processors, input dealers, storage and transport companies, etc. ▪ All farmers groups count, including those that are not formally registered as an Agriculture Group with the District Agriculture Office. What counts ▪ Includes only technologies and practices applied at the organization level (not by individuals). Improvements include management (financial, planning, human resources), member services, procurement, technical innovations (processing, storage), quality control, marketing, etc.	Formulas GT: Number of firms/groups reporting application of at least one improved technology in strata # of Interviewees in strata N: strata beneficiary population $(GT_I/Interviewees_I) \times N_I$ = Strata firms/groups $applying_I$ $SFT_1 + SFT_2 + SFT_3 + SFT_4$ = Project total number of firms/groups applying

[18] This was confirmed in a phone conversation between Lorene Flaming of Winrock International and Salik Farooqi of USAID BFS/SPPM on June 12, 2015. Disregard its inclusion in the October 2014 FTF Indicator Handbook, p. 102.

ANNEX F: FARMER QUESTIONNAIRE

Submitted separately.

ANNEX G: FARMER INTERVIEW FIELD GUIDE

Thank you for your efforts to collect quality information from our farmers!

INTRODUCTION

- This form focuses on how the farmer cultivated and marketed his crops (farmers' behaviors) and their results (yields, sales, gross margins, etc.).
- The survey is an opportunity for learning and feedback – it's not only about collecting data.
- Two surveys in one: Baseline and FY2014.
- The expected time to complete each farmer interview is at 1.5 hours.
- Interviews will be conducted in teams, generally one APO and BDSO (or one agriculturalist and one non-ag specialist).
- Questions for the farmer are in *italics*. Directions to the interviewer are in regular script.

GENERAL RULES

Checklist of Things to Take With You *(review before you depart the office to conduct interviews)*

- ✓ Measuring tape.
- ✓ Calculator.
- ✓ Survey Field Guide.
- ✓ Interview Forms with Basic Information completed.

For Clarity

- Use a black or blue pen to record answers. Do not use pencil.
- Record all numbers in English. Words can be in Nepali.
- Use comma separator for numbers (10,000).
- If a box is too small to capture an answer, write in the margin or in the Comment Section. Be sure to write the question number so there is no confusion. Do not record the answer in another question's box.
- Use consistent units throughout the form. Land can be in the local unit: kattha, ropani, or bigha. Quantity must be kg. Refer to table at the back for help converting traditional units to standard units.
- Use local terminology as needed to ensure the farmer understands your questions; for example, local terms for technologies and management practices.
- Some questions have "multiple-choice" answers. For these, circle the appropriate answer. In general, yes/no questions always have these choices: 1=yes, 2=no, 3=not sure/don't remember.

For Accuracy

- The baseline and FY2014 assessment periods are different for each farmer, depending on when they started training.
    - The baseline period describes conditions before KISAN interventions. For each farmer, it's the 12-month period leading up to their first KISAN training.
    - For each farmer, FY2014 results are measured starting with the date they started KISAN training until the end of September 2014.
- For each crop, *technology adoption* and *all sales margin factors* (costs, sales, etc.) are counted in the *harvest* fiscal year – even if some costs were incurred and some technologies were applied in a prior fiscal year. This is why we ask for the harvest date. For many KISAN

farmers, winter vegetables and rice will count in FY2015. Do not collect data for crops harvested after October 1, 2014. Do not worry if you feel you have little to report, we will explain the cropping calendar to USAID.

- Farmers often overestimate the area of their cultivatable land for small plots. Please confirm the size using a measuring tape and/or pacing (for each border, count the number of strides and multiply by the average length of your stride on uneven ground, then calculate the area). If their farm is larger than 0.5 ha, use GPS coordinates to measure the area.
- We included kitchen gardens in this survey because we want to capture information about home consumption. We know that hectares and yields are very small. If it can not be estimated, do not leave the data field blank or write "0". Instead, write "tiny".
- If a farmer is sharecropping (farms another person's land and shares part of his yields with the land owner): count all hectares and yields as if it was the farmer's throughout the questionnaire. The portion of the crop yield that he/she pays to the landowner can be recorded under the "Gift" column in the "Yields, Consumption, Losses, and Sales" tables.
- USE YOUR OWN LOGIC AND EXPERIENCE to assess if the farmer's answer makes sense. For example,
    - The harvest date should be later than the planting date.
    - The planting and harvest dates should sync with the crop calendar for that district.
    - Total production should be greater than sales quantity.
    - Value of sales should be equal (approximately) to the average price multiplied by the quantity of sales.
    - If you report that a technology was applied to a crop, you must also report that the crop was planted.
    - Input costs, yields (total production/area), gross margins, and market prices should be within the expected range for each crop. Some expected values are presented in the table at the end of this document -- this is most relevant for FY2014, since the inputs reflect KISAN's recommendations and yields are higher than expected for baselines.
- Obtaining quality data (accurate information) is far more important than the number of interviews completed. Do not rush. If the farmer gives a confusing or incomplete answer, stay on it until the answer becomes clear. You may need to help him quantify units and costs (refer to the unit conversion table at the back). Inaccurate data is actually *worse* than no data!

For Completeness

- Do not leave any blank spaces. You must choose one of the options below:
    - "0" or draw a line through the field ------- if the answer is zero; for example, the farmer did not buy an input.
    - "n/a" (not applicable) if the question does not apply to the farmer.
    - "DR" if the farmer does not know or can't remember.
    - Circle the options provided; for example, 1=Yes, 2-No, 3=DR or 1=Farm, 2=KG.

  In addition, you must write an explanation for any answers that the reviewers may find questionable. Save time by completing the form correctly. We have a rigorous data quality assessment process. You will receive a phone call and may need to conduct a 2nd interview if your data is unclear or otherwise problematic.
- Record hectares planted, yields, consumption, gifts, and losses for all crops planted and harvested in the baseline and FY2014 periods.

- Farmers may have difficulty estimating kitchen gardens quantities (for yields, consumption, post-harvest losses, and gifts). In such cases, estimate the percentages of each crop consumed by the household, given as a gift, lost post-harvest, and/or sold and be sure to write "%" next to the number so that it is not confused with "Kg". We may later be able to estimate yields based on the area planted for each crop, so it is very important to record this.
- Record inputs costs and sales and calculate gross margins only for KISAN's target crops. These are listed in the form under the gross margin sections.
- You will encounter many scenarios that were not discussed in training. If you're unsure how to apply the counting rules to what you find (for example, the number of hectares for a mixed cropping pattern), simply record the basic information in as much detail as possible and the M&E Team will help you interpret it correctly when you return.
- If anything the farmer says surprises you, explore it further. Be a detective. We want to understand why farmers do or don't adopt KISAN's recommendations and why some farmers get better results than other farmers. If a farmer has not adopted any technologies or practices, ask why. Record your findings in the Comments section at the end.

BASELINE FORM

1. Basic Information Section

- Obtain information from WIKISAN to fill out this section before conducting the interview.
- Calculate the baseline dates based on the training start date and convert it to the Nepali calendar. Use the Nepali dates when asking the farmer about his/her activities during their baseline period. Don't use the term "baseline" with them. Refer to "before KISAN training" and state their baseline dates: from _____ to _____.
- Circle the units typically used by local farmers to describe land size (kata, ropani, or bigha) and use the same unit throughout the survey form. The database will automatically convert it to hectares.

2. Baseline Cropping Pattern

- Section 2.3 lists all the crops KISAN promotes (1-13), plus a few extra nutrient-rich crops (14-15: spinach, carrots, and pumpkin). Note all crops planted in the 12-month baseline period by circling "1=yes". For crops that were not planted, circle "2=no or 3=don't remember". If the farmer planted a crop not listed, use the "other" line to record. If you need more lines, cross out the name of one of the KISAN crops that were not planted and record the non-KISAN crop that was.
- For each crop planted, record:
    - if it was planted in the off-season
    - the area planted in local units
    - if it was planted in their kitchen garden, farm, or both (circle all that apply)
    - the planting period end date
    - the harvest period end date
    - if they received any training or advice for that crop.
- The harvest end date is important because any harvest that takes place after October 1, 2014 from a crop that was planted before this date cannot be counted for KISAN's FY2014 results.
- How to count intercropping (count only KISAN-promoted crops):

- For substitutive patterns (i.e., one crop substitutes for some portion of the primary crop), the total area is measured and the area under each crop is calculated as its proportion of the total. The sum of the portions should equal 100% of the area.
- For additive intercrop arrangements, the area of the primary crop is measured as the total area planted. The area of the secondary crop is calculated as the proportion of the total area. The sum of the two can be greater than 100% of the area.

- The "area" planted is one of the five factors used to calculate the gross margin for each product.

3. Baseline Gross Margin Calculations

- Crops that are planted in the baseline period are baseline crops *even if they are harvested after the start of KISAN training* (e.g. winter vegetables), because yields will reflect agricultural practices before KISAN training. Refer back to planting dates in the cropping pattern section.
- Collect baseline information for 1-2 cereal crops and the three vegetable crops with the highest sales from the list below. Focus on crops promoted by KISAN and sold, because we want to compare KISAN crops *before and after* training:
  - Cereals: rice, maize, lentils.
  - Vegetables: Tomatoes, Cauliflower, Cabbage, Bitter Gourd, and Cucumber.
- Include non-KISAN vegetables only if the farmer grew less than three KISAN vegetables (refer to list above).
- Gross margin sections are structured differently for cereals and vegetables. Fill out one cereal form for each cereal crop and one vegetable form for three vegetables (fewer if the farmer did not grow three). If the farmer grew more than one cereal crop, use the extra cereal gross margin form provided.
- Record data for the entire 12-month baseline period for each crop, starting with their most important cereal crop (rice, maize, or lentils).
- Typical inputs are listed. If the farmer can not recall costs for each input but recalls or estimates his total costs for each crop for the 12-month period – record totals.
- Sum the variable input costs and paid labor costs to obtain total input costs. Only cash costs are included in the gross margin calculation (according to the methodology used by Feed the Future). We ask you to record unpaid labor costs for project learning purposes. We want to know if insufficient household labor is a serious constraint to expanding production for KISAN's farmers. However, if this information is difficult to get, write "DR" for "don't know or can't remember".
- Note how costs were identified: by farmer recall (detailed), recorded in farm logbook, or farmer recall (totals only). This will help us assess the accuracy of the numbers provided.
- For each crop, record:
  - total production (kg)
  - consumption (kg)
  - quantity gifted to others (kg)
  - post-harvest losses (kg)
- If any of the crop is sold, record:
  - average unit price (Rs/kg)
  - quantity sold (kg)
  - income (unit price X quantity)

    - if none sold write "0" in these boxes
- If the farmer does not report units in kg, record their units above the box, convert into kg, and record kg inside the box.
- Record who the farmer sold to. If there is more than one buyer for the crop, circle all that apply.
- Calculate the gross margin. The formula is provided for this purpose in a two-step process: 1) insert the number for each factor in the correct space for VS (value of sales), QS (quantity of sales), TP (total production), IC (input costs), and Area. Calculate sales and costs and record them in the spaces provided. 2) Subtract costs from sales and record the gross margin in the space provided.
- Calculate the gross margins using the unit that the farmer will understand: Rs/kata, Rs/ropani, or Rs/bigha. The database will later automatically convert this to Rs/ha.
- For vegetable gross margin calculations, identify the three KISAN-promoted vegetable crops with the highest sales value. We're most interested in: tomatoes, cauliflower, cabbage, bitter gourd, and cucumber.
- Calculate costs only for vegetables sold. If no vegetables were sold, skip sections 3.2.1 and 3.2.2 and go to section 3.3.
- For each input in section 3.2.1, calculate the cost for the vegetables listed for the 12-month baseline period. Distribute the cost based on the farmer's estimates of the portion of the input applied to each crop.
- If the farmer can not remember each input cost, record total variable/input costs and determine which portion was applied to each of the vegetables listed.
- The "Total Check" column is provided to cross-check your math and catch calculation errors. The sum of Total Cost column for Variable Costs (far right column) should match the sum of the Variable Cost Sub-Totals row (bottom row).
- For each vegetable crop, record:
    - total production (kg)
    - consumption (kg)
    - quantity gifted to others (kg)
    - post-harvest losses (kg)
- If any of the crop is sold, record:
    - average unit price (Rs/kg)
    - quantity sold (kg)
    - income (unit price X quantity)
    - if none sold write "0" in these boxes
- Record where the farmer sold his vegetables (not necessarily who he/she sold to).
- Calculate the gross margin for each of the three vegetables. Share this information with the farmer once you have his FY2014 gross margins, to compare profits "before" and "after" KISAN training.

3.3 Baseline Consumption of Nutrient-Rich Vegetables

- Starting in FY2014, KISAN will track increased consumption of nutrient-rich vegetables. These are marked with an asterisk* in the form: cauliflower, cabbage, bitter gourd, okra, spinach, and pumpkin. For the baseline, include consumption from both the kitchen garden and farm area. This information is captured in Section 3.3, with the information on yields, consumption, losses, and sales for all crops.

4. Baseline Technologies and Management Practices

- Includes application of new technologies and significant improvements to existing technologies. Document the technologies and management practices used *before* the farmer received training from KISAN. The list provided is based on KISAN's training curriculum, so that we can compare behaviors *before and after* training practices. (Refer to the explanation in the FY2014 section of this Field Guide for additional information and examples).
- For each technology (fields 4.1.1 to 4.11.1): a) Circle the number for *each crop* the technology was applied to (it can be more than one crop). B) Write the *area* it was applied to. In these rows, the same area will be recorded in more than one row if more than one technology was applied in it.
- For the farm (field 4.11.2): Record the number of roppani or katta *with at least one technology applied*. Count the area each time it is *cultivated* during FY2014 using at least one improved technology or practice. Here, the number of *crop cycles* is an important factor; the number of technologies is not.
- Some farmers do not understand "improved and quality seed variety" (4.1.1) and they may have used these before KISAN.
  - Improved seeds include 1) hybrids and 2) open-pollinated varieties that are not older than 3 years.
  - Unimproved seeds are 1) local varieties or 2) open-pollinated seeds that are older than 3 years.
- Some interviewers do not understand "off-season cultivation". Refer to the explanation under FY2014 Section 4. It is highly unlikely that they practiced this before KISAN, but if they did record it here.

5. Baseline Loans: Cash Borrowed

We want to know if farmers had access to finance prior to KISAN. If they had any loans, record:

- The name of the lender
- Type of lender (write the number from the lender list in the heading)
- Sex of recipient
- Amount received (loan can be for any purpose)
- Date received (only cash actually received in the baseline year is included)
- How much of the loan was used for agriculture (very important to capture this). The loan is used for agriculture if it is used for production or marketing of food crops.

6. Baseline Interviewer Comments and Feedback From Farmer

This is extra space to record any interesting issues and feedback about the project or the farmer's challenges that came up during the interview. Record anything that will be helpful for project learning. Also record any issues with the interview itself.

FY2014 FORM

1. Basic Information Section

- This section is similar to the Baseline form. The main difference is that you calculate the farmer's unique FY2014 assessment period. For each farmer, FY2014 starts when they start training and ends September 30, 2014. Most farmers will have less than 12 months to contribute to KISAN's FY2014 results.
- When discussing the FY2014 period with the farmer throughout this form, do not refer to "FY2014" or calendar dates. Instead, say: "since you started KISAN training up to Dashain holiday".

2. FY2014 Cropping Pattern

- Section 2.3 lists all the crops KISAN promotes (1-13), plus a few extra nutrient-rich crops (14-15: spinach, carrots, and pumpkin). Circle "1=yes" for all crops planted in the FY2014 period. If not planted, circle "2=no or 3=don't remember".
- For each crop planted, record:
  - if it was planted in the off-season
  - the area planted in local units
  - if it was planted in their kitchen garden, farm, or both (circle all that apply)
  - the planting period end date
  - the harvest period end date
  - if they received any training or advice for that crop.
- The harvest end date is important because any harvest that takes place after October 1, 2014 from a crop that was planted before this date can not be counted for KISAN's FY2014 results. There is one exception if they received their first training in the middle of a crop cycle:
  - If they applied a KISAN recommendation during the growing season (such as weeding and pest control) or post-harvest phase (such as drying cereals) -- we can count the harvest in FY2014. However, we then need to collect information from the *prior crop cycle* and record it in their *baseline form*. Do this only if you think KISAN training made a *significant difference* in their yields, post harvest losses, *or* sales (one or more of these). Please write an explanation on your form if you encounter this situation.
- How to count intercropping:
  - For additive intercrop arrangements, the area of the primary crop is measured as the total area planted. The area of the secondary crop is calculated as the proportion of the total area. The sum of the two can be greater than 100%.
  - For substitutive patterns (i.e., one crop substitutes for some portion of the primary crop), the total area is measured and the area under each crop is calculated as its proportion of the total. The sum of the portions should equal 100%.
  - Count only KISAN's target crops.
- The "area" planted is one of the five factors used to calculate the gross margin for each crop.

3. FY2014 Gross Margin Calculations

- Calculate gross margins only for KISAN crops that are planted, harvested, and sold in the FY2014 period. Crops planted after training and harvested after October 1, 2014 (such as Terai winter vegetables) will be counted in FY2015 results. Crops that are not sold do not have gross margins.
- Collect FY2014 information for all cereal crops and the three KISAN vegetable crops with the highest sales from the list below:
  - Cereals: rice, maize, lentils.
  - Vegetables: Tomatoes, Cauliflower, Cabbage, Bitter Gourd, and Cucumber.
- Include non-KISAN vegetables only if the farmer grew less than three KISAN vegetables (see list above).
- For each input in section 3.2.1, calculate the cost for the three vegetables in their unique FY2014 period (which will be less than 12 months), then the share for each vegetable based on the farmer's estimates.

- If the farmer can not remember each input cost, record total variable/input costs and identify the share for each of the vegetables listed.
- Calculate the gross margin for each of the three vegetables. This is an important learning opportunity for the farmer. Share the number, using language he/she will understand ("profit" rather than "gross margin"). Take time to explain why it's important. Discuss important differences; for example, between: 1) off-season and in-season vegetables, 2) vegetable and cereal gross margins, and 2) and cereals with and without KISAN's recommended technologies and practices.
- If the farmer's area planted, yields, sales, or gross margins were <u>less in FY2014</u> than in his/her baseline period, please explain why in the comments section at the end.

3.3 FY2014 Consumption of Nutrient-Rich Vegetables

- Starting in FY2014, KISAN will track increased consumption of nutrient-rich vegetables. These are marked with an asterisk* in the form: cauliflower, cabbage, bitter gourd, okra, spinach, and pumpkin. Include consumption from both the kitchen garden and farm area. This information is captured in Section 3.3, with the information on yields, consumption, losses, and sales for all crops.

4. FY2014 Improved Technologies and Management Practices

- Includes application of new technologies and significant improvements to existing technologies. Document the technologies and management practices used after the farmer received training from KISAN, during their unique FY2014 period.
- <u>For each technology</u> (fields 4.1.1 to 4.11.1): a) Circle the number for *each crop* the technology was applied to (it can be more than one crop). B) Write the *area* it was applied to. In these rows, the same area will be recorded in more than one row if more than one technology was applied in it. For example, if a farmer used improved seeds and did timely weeding, the same area should be listed on two rows. This section helps us understand what *technologies* have the highest and lowest adoption rates.
- <u>For the farm</u> (field 4.11.2): This is the most important area number for reporting purposes. It tells us how much of the farm plot has been cultivated using improved technologies or practices. Record the number of roppani or katta *with at least one technology applied*. Count the area each time it is *cultivated* during FY2014 using at least one improved technology or practice. Here, the number of *crop cycles* is an important factor; the number of technologies is not. For example, if the farmer bought improved rice seeds and in a later crop cycle planted cucumber and bitter gourd (inter-cropped) in the same area, this area would be counted twice. It doesn't matter how many improved technologies or practices are applied to the rice or the vegetables – it only matters that at least one was for each crop cycle. Include the Homestead Garden area if the farmer has applied KISAN's recommendations in the garden and the area can be measured/estimated.
- For nursery activities, count the production area in which the seedlings were planted.
- Some farmers do not understand "improved and quality seed variety". Please explain:
  - Improved seeds include 1) hybrids and 2) open-pollinated varieties that are not older than 3 years.
  - Unimproved seeds are 1) local varieties or 2) open-pollinated seeds that are older than 3 years.
- Some interviewers do not understand what "off-season cultivation…based on season, not technology" means in row 4.11.1. Off-season cultivation is possible in two ways:

- *Technology* such as plastic tunnels makes it possible to grow vegetables during the colder months. Irrigation makes it possible to grow during the dryer months. These scenarios are captured in other rows (such as 4.8.2 for plastic house or tunnel and 4.6.1 for micro-irrigation technology).
- *Climatic/seasonal* differences between regions make it possible for farmers in one region to grow vegetables and sell them to another region when the supply is low and prices are high. For example, the hills grow vegetables and sell to the Terai when it is too hot in the Terai to grow vegetables. This scenario is recorded in row 4.11.1.

5. Gender

- Who was the primary decision-maker for the farm? We ask this again because it may have changed since the baseline year (given high rates of emigration).
- "4 = Group" applies only to collective farms. We do not expect to see this among KISAN farmers.

6. Priority Constraints

- This is an open-ended question for the farmer. Do not prompt them or suggest constraints. Wait to hear what they say. Ask them to expand on what they say to obtain a complete picture.
- After they have identified three, refer to the numbered list of potential constraints in the heading row and enter the constraint number in the code column. This will allow us to track how common each constraint is.

7. FY2014 Loans: Cash Borrowed

We want to know if farmers had access to finance as a result of KISAN assistance. If they had any loans, record the following:

- Type of lender (write the number from the lender type list in the heading)
- Sex of recipient
- Amount received (the loan can be for any purpose)
- Date received (only cash actually received in FY2014 is included)
- How much of the loan was used for agriculture (very important). The loan is used for agriculture if it is used for production or marketing of a KISAN-promoted crop.

8. FY2014 Interviewer Comments and Feedback From Farmer

This is extra space to record additional information about:

- The farmer's challenges
- Feedback from the farmer about the project
- Any interview issues
- Any values that are outside of expected range (for yields, sales, or gross margins)
- Anything else that would be helpful for project learning

9. Informed Consent: Signature or Spoken

Some farmers may be reluctant to give their signature. It is ok if they do not. In this case, ask them if they are willing to give spoken consent. If they say "yes": write "spoken consent" in the signature space. If they say "no", write "no consent".

DOCUMENT REVIEW AND MANAGEMENT

Each form should be submitted and reviewed using the process below:

1. **KISAN District Review:** Both interviewers (BDSO and APO/Full Bright Enumerator) review the form to ensure it is complete and accurate. Take one photocopy of the form before

dispatching it to Nepalganj for data entry. Refer to the submission schedule for each district provided by Rajiv. Keep photocopies in the KISAN District Office in the event the original is lost or the M&E Team has a question for the interviewers.

2. **KISAN Cluster Review:** The Cluster Manager conducts spot checks on Interview Teams to ensure they understand the Interview Form and process.
3. **KISAN Regional Review:** The M&E Regional Manager and Operational Officer in Nepalganj review each form. If any data appears outside of the expected range and no explanation has been provided in the comment section, it is flagged for follow-up.
4. **Full Bright Review:** The Full Bright Survey Supervisor in Nepalganj reviews each form.
5. **Full Bright Data Entry:** The Full Bright Data Entry Specialists enter the data into the survey database.
6. **KISAN DQA:** The GIS and DQA Specialist runs queries to detect data entry errors and outliers. In such cases, he will call the Interview Team to discuss and resolve. If necessary, the Interview Team may need to speak with the farmer again.

REFERENCES

Table XX. Area and Quantity Unit Conversions

Traditional Units	Converted Units
Area	
1 Ropani (20 Ropani = 1ha)	0.050 ha
1 Kattha Pakki (30 Kattha = 1ha)	0.033 ha
1 *Kachi Bigha* - Kapilvastu (= 3.7 Kattha Pakki)	0.123 ha
1 *Kachi Bigha* - Banke (=2.5 Kattha)	0.083 ha
1 *Pakki Bigha (= 20 Kattha)*	0.667 ha
1 Bishwa (=9/Kattha)	0.004 ha
1 *Khadiya (=2m², =0.006 Kattha)*	0.0002 ha
Area and Quantity	
1 *Ropani*	4 *Mato Muri*
1 *Muri* Rice	49 kg
1 *Muri* Maize	68 kg
1 *Muri* Lentil	73 kg
1 *Muri*	20 *Pathi*
1 *Pathi*	8 *Mana*
1 *Number*	5 kg
One *Doko* compost	25 kg
One bullock cart compost (*goru gada*)	500 kg
One buffalo cart compost (*dunlop*)	800 kg

FY 2014 HARVEST

The following table lists vegetables that KISAN farmers were trained on *and* had time to plant and harvest in FY2014.

Table XXI. Potential FY2014 Crops By Region	
Midwest Region	**West & Far West Regions**
Bitter Gourd	Maize
Bottle Gourd	Cauliflower
Long Bean or Bean	Cabbage
Cauliflower	Long Bean or Bean
Cabbage	Tomato
Chilies	Chilies
Bringle (Eggplant)	Bringal (Eggplant)
Tomato	
Lentil	
Maize	

AVERAGE CEREAL CONSUMPTION

A family of 5 consumes the following quantities of rice and maize per year – *on average*. The individual farmers you interview may consume more or less, depending on the size of the family and other factors.

Terai: A family of 5 consumes 10 quintal of rice per year, on average.
Hills: a family of 5 consumes 8 quintal of maize per year, on average.

QUESTIONS?

If you have any questions about the interview form or survey process, please call one of KISAN's M&E Team Members. We're happy to help!

Zarin: 9851070305
Rajiv: 98511151512
Harish: 9841337692
Rabindra: 9858023584
Sumi: 9841494497
Lorene: 9808970877

SUGGESTIONS?

We welcome your suggestions on how to improve KISAN's interview forms and survey process. Please note any ideas that come up during your fieldwork. Once the survey is complete, we'll reach out to you for feedback. For example: Can some questions or sections of the form be clearer? Are we missing any important questions? Is there something you would like to understand better about farmers' decisions and behaviors?

ANNEX H: FIRM & ORGANIZATION QUESTIONNAIRE

Submitted separately.

ANNEX I: FIRM & ORGANIZATION INTERVIEW FIELD GUIDE

Thank you for your efforts to collect quality information from our partners!

INTRODUCTION

- The survey is an opportunity for learning and feedback – it's not only about collecting *data*.
- Two surveys in one: Baseline and FY2014.
- The expected time to complete each interview is 20-30 minutes.
- Interviews will be conducted by District Coordinators.
- Questions for the interviewee are in *italics*. Directions to the interviewer are in regular script.

GENERAL RULES

For Clarity

- Use a black or blue pen to record answers. Do not use pencil.
- Record all numbers in English. Words can be in Nepali.
- Use comma separator for numbers (10,000).
- If a box is too small to capture an answer, write in the margin or in the Comment Section. Be sure to write the question number so there is no confusion. Do not record the answer in another question's box.
- Some questions have "multiple-choice" answers. For these, circle the appropriate answer. In general, yes/no questions always have these choices: 1=yes, 2=no, 3=not sure/don't remember.

For Accuracy

- The baseline and FY2014 assessment periods are different for each firm/organization, depending on when significant KISAN assistance started.
    - The baseline period describes conditions before KISAN interventions. For each firm/organization, it's the 12-month period leading up to their first KISAN assistance.
    - For each firm/organization, FY2014 results are measured starting with the date they started receiving significant KISAN assistance until the end of September 2014. FY2014 will be less than 12 months for each firm/organization.
- Use logic and your own experience to assess if the interviewer's answer makes sense.
- Obtaining quality data (accurate information) is far more important than completing your interviews quickly.

For Completeness

- Do not leave any blank spaces.
- If anything the interviewee says surprises you, explore it further. Be a detective. We want to understand why firms/organizations do or don't adopt KISAN's recommendations. Record your findings in the Comments section at the end. Do not focus solely on successes. Any information that helps us understand what is working or not working is helpful.

- If there is a data quality issue with any answer, please explain in the Comments section.

1. BASIC INFORMATION SECTION

- Obtain information from WIKISAN to fill out this section before conducting the interview.

- Calculate the baseline period based on their KISAN assistance (support) start date. It may be necessary to convert it to the Nepali calendar to ensure your interviewee understands the dates and period you are asking about. When interviewing, do not use the the term "baseline". Refer to "the 12-month period before KISAN assistance started" and clearly state their dates: from _____ to _____.
- When discussing the FY2014 period, do not refer to "FY2014" or calendar dates. Instead, say: "since you started KISAN training up to Dashain holiday".

2. INTERVIEW

- Record the date and time of the interview and your name.
- "Supervisor" refers to the reviewer in Nepalgunj. They will record their name when the form is reviewed.

3. PROJECT ASSISTANCE

- These are "open-ended" questions for the firm/organization – the interviewee is free to say whatever comes to mind. Do not "prompt" them with suggestions or examples. These questions allow us to collect feedback and potential success stories.

4. LOANS RECEIVED

- Questions 4.1 and 4.2 ask if the firm/organization borrowed any money in the baseline or FY2014 periods. If the interviewee answered "Yes" to either question, record the information below.
- We have provided the definition of "What Counts" for KISAN's "value of loans" indicator. Record all loans received even if they do not meet this definition. Loans that do not count for "value of loans" indicator will count for "firms assisted to receive loans" indicator. This will be determined by the specific information provided on each loan in rows 4.3.1 to 4.3.5.
- Dates must reflect when cash was received, not when the loan was approved.

11. CAPITAL INVESTMENTS

- This section was added after the survey started. For this reason, the number is out of sequence.
- Questions 11.1 and 11.2 ask if the firm/organization purchased any assets in the baseline or FY2014 periods. If the interviewee answered "Yes" to either question, record the information in rows 11.3.1 to 11.3.6. It is important to describe the investment so that reviewers can verify if it can be counted. We have provided the definition of "What Counts" and some examples. The asset may be "new" or "improved". For example, it can be a new computer or a building expansion.

5. VOLUME OF SALES

- Record the total sales for the baseline and FY2014 period. Sales may be higher in the baseline period, because the baseline period is 12 months and the FY2014 period is less than 12 months.
- KISAN conducted a survey of MPCs and Agrovets in January 2014. Please ask this question again, even if it was asked before. This is necessary because each firm's FY2014 period is unique, depending on when KISAN assistance started. In the prior survey, we assumed all firms/organizations had the same FY2014 period.

6. CUSTOMERS AND MEMBERS

- For all firms and organizations, record the number of *customers* they had at the end of their baseline period and the end of their FY2014 period in 6.1 and 6.2. Customers do not need to be KISAN farmers.
- Cooperatives and collection centers can have both customers and members. In 6.3 and 6.4, record the number of *members* they had at the end of their baseline and FY2014 periods. Members do not need to be KISAN farmers.

7. IMPROVED MANAGEMENT PRACTICES

- Complete the subsection that matches the type of firm/organization you are interviewing: cooperatives, collection centers, agrovets, and agribusinesses. The list of management practices reflects KISAN's recommendations. If the firm/organization adopted some practices that are listed in another subsection, you can circle it. If they adopted an improved practice that is not listed, please record it one of the blank fields provided.
- Very important! Answer "Yes" to "Applied as a result of KISAN assistance?" only if the management practice was "newly adopted" in FY2014 (not used prior to KISAN assistance). Otherwise answer "No".
- Verify all "Yes" answers using direct observation, if possible (such as seeing new computers or reviewing documents).

8. OPEN-ENDED QUESTIONS

These questions allow us to identify priorities for future KISAN support.

9. INFORMED CONSENT: SIGNATURE OR SPOKEN

Some Interviewees may be reluctant to give their signature. It is ok if they do not. In this case, ask them if they are willing to give spoken consent. If they say "yes": write "spoken consent" in the signature space. If they say "no", write "no consent".

10. INTERVIEWER COMMENTS AND FEEDBACK FROM FARMER

This is extra space to record any interesting issues and feedback about the project or the firm's challenges that came up during the interview. Record anything that will be helpful for project learning. Also record any issues with the interview itself.

DOCUMENT REVIEW AND MANAGEMENT

Each form should be submitted and reviewed using the process below:

1. **KISAN District Review:** The Interviewer reviews the form to ensure it is complete and accurate. Take one photocopy of the form before dispatching it to Nepalganj for data entry. Refer to the submission schedule for each district provided by Zarin or Rajiv. Keep photocopies in the KISAN District Office in the event the original is lost or the M&E Team has a question for the Interviewer.
2. **KISAN Cluster Review:** The Cluster Manager conducts spot checks to ensure Interviewers understand the Interview Form and process.
3. **Full Bright Data Entry:** The Full Bright Data Entry Specialists enter the data into the survey database.
4. **KISAN DQA:** The GIS and DQA Specialist runs queries to detect data entry errors and outliers. In such cases, one of the reviewers will call the Interview Team to discuss and resolve. If necessary, the Interviewer may need to speak with the farmer again.

5. **Review:** The KISAN Operational Officer in Nepalganj reviews each form to check for obvious errors and omissions (blank fields). In addition, if data queries identify potential data issues and no explanation has been provided in the comment section, one of the reviewers will follow up with the Interviewer.

QUESTIONS?

If you have any questions about the interview form or survey process, please call one of KISAN's M&E Team Members. We're happy to help.

Zarin: 9851070305
Rajiv: 9851151512
Lorene: 9808970877
Sumi: 9841494497

SUGGESTIONS?

We welcome your suggestions on how to improve KISAN's interview forms and survey process. Please note any ideas that come up during your fieldwork. Once the survey is complete, we'll reach out to you for feedback. For example: Can some questions or sections of the form be clearer? Are we missing any important questions? Is there something you would like to understand better about firms' or organizations' decisions and behaviors?

ANNEX J: EXPECTED RANGES FOR DQA QUERIES

The following table was used by survey team members involved in reviewing completed questionnaires and running queries to detect potential errors in recording answers and/or data entry. It was prepared by KISAN's Regional Manager and Cluster Manager, based on Government of Nepal statistics and field experience.

Table XXII. Expected Ranges for Selected Values, by Commodity

Target Commodity	Yield/Sq.m.		Price (Rs/Kg)		Harvest Period (months)		Input Cost (Rs)	Input Cost ($)
	From	To	From	To	From	To		
Rice	0.001	0.1	12	32	3	6	72,250	$761
Lentils	0.001	0.3	30	90	5	6	51,735	$545
Maize	0.001	0.7	12	35	3	7	70,475	$742
Cauliflower	0.1	3	8	80	2	6	209,100	$2,201
Cabbage	0.1	3	5	30	2	6	166,326	$1,751
Tomato	0.1	4	10	80	2	6	292,450	$3,078
Bitter Gourd	0.1	3	14	80	2	6	241,370	$2,541
Cucumber	0.1	3	10	80	2	6	271,950	$2,863
Eggplant	0.1	3	15	50	2	6	241,250	$2,539
Chili	0.1	3	10	200	2	6	160,700	$1,692
Long Bean	0.1	2	15	100	2	6	256,300	$2,698
Bottle Gourd	0.1	3	12	40	2	6	241,250	$2,539
Okra	0.1	3	10	80	2	6	166,640	$1,754
Spinach	0.1	3	10	40	2	6	135,200	$1,423
Pumpkin	0.1	7	10	40	2	6	162,370	$1,709
Carrots	0.1	3	20	50	2	6	146,740	$1,545
Onion	0.1	3	20	100	2	6	228,500	$2,405
Sponge Gourd	0.1	3	10	70	2	6	241,250	$2,539
French Bean	0.1	3	10	40	2	6	241,250	$2,539
Potato	0.1	5	20	50	2	6	241,250	$2,539

ANNEX K: CORRECTIVE MEASURES

The following notes were prepared by Sumi Maskey, KISAN Regional Operating Officer in Nepalgunj. She and the Full Bright Agriculture Expert reviewed completed questionnaires prior to data entry. Her notes summarize the most common errors detected and corrective measures. The reviewers corrected errors on the original questionnaire forms using a red pen.

Table XXIII. Corrective Measures for Enumerator Errors

Most Common Errors Detected	Solution
Incorrect planting and harvest dates or duration based on the crop calendar for Western Nepal.	Reviewers were provided a crop calendar as a reference (refer to Annex C) and the Agriculture Expert corrected dates as needed to ensure the crop was accounted for in the correct assessment period.
Data entry errors	Data entry errors were identified using DQA queries. The reviewers compared the Error List to the original questionnaire form, circled the value in red ink, and attached a sticky note requesting the Data Entry Specialists to correct the data in the survey database. Once corrected, the Data Entry Specialist removed the sticky note.
Farm size greater than 5 hectares (cultivatable area), which exceeds the USAID/Nepal and FTF definition of "smallholder"	The Review Team called the Interviewer or farmer to confirm the data. It was corrected as needed. If the value was correct, the related results were excluded as ineligible.
Reported "kitchen garden" yields exceed what would be expected for the area, or the reported size of the kitchen garden was outside the expected range.	The Review Team called Interviewer to confirm the data.
Missing data: buyer	This data is not needed for indicator measurement. It was collected to better understand the market, using a list of potential types of buyers. The Review Team used their best judgment to identify the buyer type, based on the nature of the sale (commodity and quantity) and their knowledge of prevailing marketing practices in the farmer's VDC (which could be gleaned from project staff and other questionnaires completed in the same VDC).
Missing data: number of hectares in which the farmer applied improved technologies or management practices. The technology disaggregate and crop were both identified, but the hectares were either missing or incorrectly calculated because Interviewers misunderstood the measurement guidance.	The questionnaire captured data on the number of hectares for each crop and which crop(s) – maize, rice, lentils, and vegetables – each improved technology or management practice was applied to, if any. The Review Team inferred that if applied to a specific crop, the technology was applied to the entire area under cultivation for that crop and corrected the form accordingly. The Data Analysis Team was able to run queries to determine the correct number of hectares based on the data collected, rather than Interviewers' calculations.
Loan date incorrect	The Review Team verified the loan date with the farmer.
Confusing and dirty questionnaire forms, with numbers crossed out or over-written, illegible handwriting, and/or data recorded in the wrong cell (particularly from Bardia District)	The Review Team deciphered the forms and made clear notes for the Data Entry Team using red ink. If subsequent DQA queries detected errors, they were corrected with blue ink so that the Data Entry Team understood which numbers in the database required correction. Additional instructions were provided on sticky notes as needed.

Table XXIII. Corrective Measures for Enumerator Errors

Most Common Errors Detected	Solution
Other potential sources of confusion for the Data Entry Team	The following types of corrections were made using green ink: translation from Nepali to English (dates and comments), converting area reported to a standard unit (kattha/ropani), and clarifying any potentially confusing numbers.
Extra pages required for gross margin calculations missing	Forms were returned to the district for completion, as needed. Interviewers were asked to record new information in red ink.

ANNEX L: KISAN SURVEY TRAINING AGENDA AND PARTICIPANTS

Location: Kitchen Hut, Nepalganj
Duration: 2.5 to 3 days
1st Group (22 participants): March 30 to April 1, 2015
2nd Group (23 participants): April 2 to 4, 2015

Table XXIV. Training Agenda for First Group

Time	Topics	Lead
Day 1		
7:30 to 8:30	Breakfast at Kitchen Hut	Prakash Bhatta
8:30 to 8:45	Introduction ▪ Survey objectives - *Project learning* for KISAN and farmers - *Quality data* for FTF Portfolio Review (May 2015) ▪ Requests	Lorene
8:45 to 9:00	Training Objectives ▪ Understand KISAN's Key Performance Indicators: "Who" and "What" counts. ▪ Learn how to calculate gross margins using FTF guidelines. ▪ Practice conducting interviews using survey forms. ▪ Provide feedback. ▪ Identify ways to make this a good experience for the farmer. ▪ Understand how to capture and report quality data. ▪ Any others?	Zarin
9:00 to 9:30	Defining assessment periods ▪ Baseline ▪ FY2014	Lorene
9:30 to 10:00	Documenting Baseline Cropping Pattern Defining the area planted for each crop in local units	Zarin
10:00 to 10:15	Tea break	-
10:15 to 12:30	Calculating gross margins Converting farmer's units to kg	Harish and Rabindra
12:30 to 1:30	Lunch	-
1:30 to 2:00	A few comments on our survey ▪ Identifying the list of farmers in our survey sample ▪ Minimizing interview bias ▪ The importance of listening well ▪ The importance of Farm Logbooks	Lorene
2:00 to 3:00	Farmer Interview Form: step-by-step	Zarin
3:00 to 3:15	Tea break	-
3:15 to 5:30	Farmer Interview Form: step-by-step	Zarin
Day 2		
7:30 to 8:30	Breakfast	Prakash Bhatta
8:30 to 12:30	Field test (one interview each team)	Teams
12:30 to 1:30	Lunch	-
1:30 to 3:00	Field test debrief: teams report back (20 min each)	Zarin

Table XXIV. Training Agenda for First Group		
Time	**Topics**	**Lead**
3:00 to 3:15	Tea break	-
3:15 to 5:30	Field test debrief: teams report back (20 min each)	Zarin
Day 3		
7:30 to 8:30	Breakfast	Prakash Bhatta
8:30 to 9:00	Planning field work	Rabindra & Banke DC
9:00 to 10:00	After the Interview: ▪ Submitting forms to Nepalganj (logistics) ▪ Data Quality Assessment process ▪ Data entry	Rajiv
10:00 to 10:15	Tea break	-
10:15 to 12:30	Feedback on training session Other topics TBD	
12:30 to 1:30	Lunch	-
1:30 to 5:30	Extra time to use if needed.	

Table XXV. Training Agenda for Second Group

Time	Topics	Lead
Day 1		
7:30 to 8:30	Breakfast at Kitchen Hut	Prakash
8:30 to 8:45	Introduction ▪ Survey objectives - *Project learning* for KISAN and farmers - *Quality data* for FTF Portfolio Review (May 2015) ▪ Requests	Lorene
8:45 to 9:00	Training Objectives ▪ Understand KISAN's Key Performance Indicators: "Who" and "What" counts. ▪ Learn how to calculate gross margins using FTF guidelines. ▪ Practice conducting interviews using survey forms. ▪ Provide feedback. ▪ Identify ways to make this a good experience for the farmer. ▪ Understand how to capture and report quality data. ▪ Any others?	Zarin
9:00-9:30	KISAN Theory of Change	Lorene
9:30 to 10:00	Defining assessment periods ▪ Baseline ▪ FY2014	Lorene
10:00 to 10:15	Tea break	-
10:15 to 10:45	Documenting Baseline Cropping Pattern Defining the area planted for each crop in local units	Zarin
10:15 to 12:30	Calculating gross margins Converting farmer's units to kg	Harish and Rabindra
12:30 to 1:30	Lunch	-
1:30 to 2:00	A few comments on our survey ▪ Identifying the list of farmers in our survey sample ▪ Minimizing interview bias ▪ The importance of listening well ▪ The importance of Farm Logbooks	Rajiv and Lorene
2:00 to 3:00	Farmer Interview Form: step-by-step	Zarin
3:00 to 3:15	Tea break	-
3:15 to 5:30	Farmer Interview Form: step-by-step	Zarin
Day 2		
7:30 to 8:30	Breakfast	Prakash
8:30 to 12:30	Field test (one interview each team)	Teams
12:30 to 1:30	Lunch	-
1:30 to 3:00	Field test debrief: teams report back (20 min each)	Zarin
3:00 to 3:15	Tea break	-
3:15 to 5:30	Field test debrief: teams report back (20 min each)	Zarin

Table XXV. Training Agenda for Second Group

Time	Topics	Lead
Day 1		
Day 3		
7:30 to 8:30	Breakfast	Prakash
8:30 to 9:30	After the Interview: ▪ Data Quality Assessment (DQA) process ▪ Submitting forms to Nepalganj (logistics)	Rajiv
9:30-10:00	Feedback to Interviewers on completed forms	Sumi & Chandra
10:00 to 10:15	Tea break	-
10:15-11:15	Feedback to Interviewers on completed forms	Sumi & Chandra
11:15 to 12:00	Planning field work	Rabindra & Mahesh
12:00 to 1:00	Lunch	-
1:00 to 2:00	TBD	M&E Team
2:00 to 3:00	Administration and Logistics (expense reports)	Prakash

Table XXVI. Survey Enumerators Trained

SN	District	BDSO	APO	Batch
1	Banke	Jagannath Paudyal	PHD Ag 7	2
2	Bardiya	Raj Kumar Amatya	Alok Chapagain	1
3	Dailekh	Birandra Kumar Chaudhary	Bishal Adhikari	1
4	Surkhet	Hari Bol Neupane	Vishwa Chandra Pokhrel	1
5	Jajarkot	Bishnu Pd. Dahal	Manoj Chhetri	1
6	Rukum	Pankaj Upadhya	PHD Ag 6	2
7	Dang	Narayan Shrestha	Krishna Prasad Bhatta	1
8	Salyan	Anil Chaudhary	Nabaraj Neupane	1
9	Pyuthan	PHD Non Ag 1	Bishnu Bhusal	1
10	Rolpa	PHD Non Ag 2	PHD Ag 5	2
11	Argakhachi	Khima Kanal	Bijay Tripathi	1
12	Palpa	Ramprabesh Pd.Chauhan	Sushant Raj Sharma	1
13	Gulmi	PHD Non Ag 3	Dinesh Chhetri	1
14	Kapilbastu	Shyam Sunder Shah	Rajendra Chaudhary	1
15	Doti	Narayan Bdr . B.K.	PHD Ag 1	2
16	Achham	Hari Krishna Pandey	PHD Ag 2	2
17	Dadheldhura	Arjun Pd. Bhattarai	PHD Ag 3	2
18	Baitadi	Lal Bdr Ale	PHD Ag 4	2
19	Kailali	Ghan Shyam Chaudhary	Sudha Mishra	2
20	Kanchanpur	Kabir Maharjan	Hemanta Neupane	2
	TBD	5 PHD Non Ag Surveyors		2

ANNEX M: SURVEY TEAM

Table XXVII. Oversight Team for Survey		
Personnel	**Organization**	**Survey Duties**
Oversight		
Lorene Flaming	KISAN – KTM	Survey design, capacity building, liaison with USAID, and final report
Praveen Baidya	KISAN – KTM	Data analysis oversight and subcontracts
Rajiv Paudel	KISAN – KTM	Oversight of database design, DQA queries, data analysis, and training
Zarin Pradhan	KISAN – KTM	Logistics coordination and training
Harish Chandra Devkota	KISAN – NG	Logistical support at Regional Office and training
Rabindra Patel	KISAN – NG	Logistical support at Cluster Office and training
Chandra Thapa	KISAN – NG	Logistical support at Regional Office
Data Quality Analysis		
Binod Kachhapati	Full Bright – KTM	Database design and DQA queries
Sumi Maskey	KISAN - NG	DQA process management in Nepalgunj, correcting forms, and training
Kshetra Shrestha	Full Bright – NG	Questionnaire review, Agriculture Expert
Rishi Ram Koirala	Full Bright – NG	Questionnaire review
Vijay Pandey	Full Bright – NG	Questionnaire review
Rajendra Chaudhary	KISAN – NG	Enumerator and correcting errors
Sudha Mishra	KISAN – NG	Enumerator and correcting errors
Diwakar Dawadi	KISAN – NG	Enumerator and correcting errors
Prem Prasad Bhattarai	KISAN - NG	Enumerator and correcting errors

Table XXVIII. Survey Enumerators and Data Entry Staff	
Personnel	**Organization**
Enumerators for Farmer Survey	
Pankaj Upadhyay	KISAN
Lal Bahadur Ale	KISAN
Narayan Bd. BK	KISAN
Shiva Lal	KISAN
Hari Krishna Pandey	KISAN
Ghanshyam Chaudhary	KISAN
Kabir Maharjan	KISAN
Jagannath Poudel	KISAN
Raj Kumar Amatya	KISAN
Anil Chaudhary	KISAN
Narayan Shrestha	KISAN
Khima Khanal	KISAN
Haribol Neupane	KISAN
Birendra Kumar Chaudhary	KISAN

Table XXVIII. Survey Enumerators and Data Entry Staff	
Personnel	**Organization**
Ramprabesh Chauhan	KISAN
Bishnu Pd. Dahal	KISAN
Shyam Sundar Shah	KISAN
Ganga Rai	KISAN
Bishnu Bhusal	KISAN
Nabaraj Neupane	KISAN
Krishna Prasad Bhatta	KISAN
Bijay Tripathi	KISAN
Dinesh Chhetri	KISAN
Viswa Chandra Pokhrel	KISAN
Bishal Adhikari	KISAN
Sushant Raj Sharma	KISAN
Manoj Chhetri	KISAN
Hemanta Neupane	KISAN
Amit Duwadi	KISAN
Ram Bhakta Neupane	KISAN
Alok Chapagai	KISAN
Hari Bd. Mijar	PHD Group
Krishna Prasad Bhatta	PHD Group
Dupchan Lama	PHD Group
Sameer Singh Barai Magar	PHD Group
Ashmit KC	PHD Group
Tilak Pokhrel	PHD Group
Bishnu Prasad Ghimire	PHD Group
Hari Prasad Paneru	PHD Group
Uttam B. Kunwar	PHD Group
Karuna Nepal	PHD Group
Bishnu Adhikari	PHD Group
Tulsi Ram Poudel	PHD Group
Chandika Lama	PHD Group
Diwas Bohara	PHD Group
Babu Ram Roka	PHD Group
Enumerators for Firm/Organization Census	
Bhuban Raj Poudel	KISAN
Janardan Nepal	KISAN
Mahesh Chhetri	KISAN
Mahesh Poudyal	KISAN
Shiva Narayan Shah	KISAN
Durga Dutt Upreti	KISAN
Dipak Kafle	KISAN
Janak Narayan Acharya	KISAN
Niranjan Gurung	KISAN
Purushottam Prasad Gupta	KISAN
Shibaji Mahato	KISAN
Menu Kumar Shrestha	KISAN

Table XXVIII. Survey Enumerators and Data Entry Staff	
Personnel	**Organization**
Ram Narayan Shah	KISAN
Deependra Adhikari	KISAN
Binod Shrestha	KISAN
Prem Prasad Bhattarai	KISAN
Laxmi Tiwari	KISAN
Manoj Chhetri	KISAN
Shyam Krishna Ghimire	KISAN
Chandra Thapa	KISAN
Data Entry	
Ramesh Chaudhary	Full Bright – NG
Bimal Chaudhary	Full Bright – NG
Binita Thapa	Full Bright – NG
Sarita Thapa	Full Bright - NG

ANNEX N: FTF PORTFOLIO REVIEW DATA TABLE

Indicators	FY 2014				FY 2016
	Total	Male	Female	Joint	Target
Number of total farmers KISAN worked with					
Total	33,902	4,997	7,865	21,040	92,000
a. Rice	4,134	792	762	2,580	75,951
b. Lentil	898		164	734	27,550
c. Maize	18,828	1,789	4,996	12,044	46,050
Vegetables (d -h)	28,676	3,650	7,012	18,015	70,037
d. Cauliflower	15,345	1,936	3,875	9,535	53,360
e. Cabbage	10,783	1,557	2,612	6,614	48,204
f. Tomato	12,390	1,485	2,550	8,355	41,400
g. Bitter Gourd	15,303	1,947	3,357	10,000	34,930
h. Cucumber	12,762	1,705	2,405	8,652	33,085
Number of farmers applying improved technologies (at least one)					
Total	30,944	3,995	7,312	19,637	83,973
a. Rice Farmers	4,044	792	671	2,580	74,295
b. Lentil Farmers	674		74	600	20,682
c. Maize Farmers	18,266	1,527	4,976	11,764	44,675
d. Vegetables Farmers	28,488	3,630	6,938	17,920	69,577
Number of hectares under improved technologies (at least one)					
Total	7,566	1,085	1,392	5,089	49,736
a. Rice	1,784	508	153	1,122	34,226
b. Lentil	130		30	100	3,282
c. Maize	3,996	322	881	2,793	7,554
d. Vegetables	1,656	255	328	1,073	4,674
Value of incremental sales (Vegetables 12)					
Value of sales	6,840,334	NA	NA	NA	18,098,376
# of Producers	31,317				70,037
Adjusted Baseline Sales	3,975,333	NA	NA	NA	8,890,403
Incremental Sales	2,865,001	NA	NA	Na	9,207,972
Gross margin per hectare (Based on Producers that have sales)					
a. Rice	653	676	548	618	666
b. Lentil	387	-	313	453	395
c. Maize	573	610	671	534	584
d. Cauliflower	4,029	3,023	4,557	4,172	4,110
e. Cabbage	2,985	3,198	4,232	2,582	3,044
f. Tomato	4,590	4,683	5,200	4,410	4,682
g. Bitter Gourd	4,323	4,245	3,602	4,680	4,410
h. Cucumber	3,855	3,274	3,864	4,030	3,932

Indicators	FY 2014				FY 2016
	Total	Male	Female	Joint	Target
Yield per hectare (in metric tons) all producers					
a. Rice	3.46	4.29	2.52	3.25	3.73
b. Lentil	0.41		0.52	0.38	0.66
c. Maize	2.74	2.65	3.17	2.62	3.03
d. Cauliflower	16.12	13.93	19.53	15.6	17.78
e. Cabbage	20.09	18.29	23.89	19.36	22.15
f. Tomato	18.41	17.06	20.83	18.07	20.3
g. Bitter Gourd	13.28	14.9	10.59	14.08	14.64
h. Cucumber	17.92	18.47	16.79	18.02	19.76

ANNEX O: FTFMS DATA ENTRY TABLE FOR KISAN

As of June 26, KISAN had entered the baseline, FY2014 results, and FY2015-2017 targets into FTFMS. Upon submission (a final step), KISAN will export the FTFMS tables and paste here.

ANNEX P: FTF BASELINE GUIDANCE PROVIDED BY RIDA

Table XXIX. FTF Baseline Guidance Provided by RIDA

SPS #	Type	Indicator	Baseline
4.5-4	Outcome	Gross margin per unit of land, kilogram, or animal of selected product (crops/animals/fisheries selected varies by country) (RiA)	Value prior to project
4.5.2-2	Outcome	Number of hectares under improved technologies or management practices as a result of USG assistance (RiA) (WOG)	0
4.5.2-5	Outcome	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance (RiA) (WOG)	0
4.5.2-6	Output	Number of individuals who have received USG supported long-term agricultural sector productivity or food security training (S)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank
4.5.2-7	Output	Number of individuals who have received USG supported short-term agricultural sector productivity or food security training (RiA) (WOG)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank
4.5.2-11	Output	Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance (RiA) (WOG)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank
4.5.2-13	Output	Number of rural households benefiting directly from USG interventions (S)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank
4.5.2-14	Output	Number of vulnerable households benefiting directly from USG assistance (S)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank
4.5.2-23	Outcome	Value of incremental sales (collected at farm-level) attributed to FTF implementation (RiA)	Baseline Year Sales is total sales of commodity prior to project, but baseline for the indicator itself is not applicable
4.5.2-27	Output	Number of members of producer organizations and community based organizations receiving USG assistance (S)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank

Table XXIX. FTF Baseline Guidance Provided by RIDA

SPS #	Type	Indicator	Baseline
4.5.2-28	Outcome	Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations and community-based organizations (CBOs) that applied new technologies or management practices as a result of USG assistance (RiA) (WOG)	0
4.5.2-29	Output	Value of Agricultural and Rural Loans (RiA) (WOG)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank
4.5.2-30	Output	Number of MSMEs, including farmers, receiving USG assistance to access loans (S)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank
4.5.2-37	Output	Number of MSMEs, including farmers, receiving business development services from USG assisted sources (S)	New=0; Ongoing (previously collected)=FY10 actual; Ongoing (not previously collected)=blank
4.5.2-38	Outcome	Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation (RiA)	0